Kenya Essential Medicines List 2016

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¹ Proposals for amendments to the list should be submitted using the KEML Proposed Amendment Form (p77)
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Foreword

This update of the Kenya Essential Medicines List (KEML) is most welcome. It is a key tool which should effectively be used to promote access to essential medicines, and through their correct selection, management and use to achieve maximum therapeutic benefit and optimise patient outcomes.

The KEML is an investment guide - a guide for the investment of healthcare funds in financing the most appropriate medicines to achieve therapeutic aims in response to prioritised public health need.

It is also meant to guide policy, focus of attention and resources (time, financial, technical and human) in areas and activities which support the above aims, such as training, quality assurance, financing & insurance, regulation & monitoring, appropriate use (including control of antimicrobial resistance), operational research and local production.

As such the KEML must be fully responsive to the aims and objectives of national health policies and strategies. In this respect, the KEML has incorporated the most current guidance to adequately address the heavy but gradually decreasing burden of communicable diseases (such as malaria, TB and HIV). In addition, particular attention has been paid to medicines to manage the ever-increasing numbers of those with non-communicable diseases (especially heart disease, diabetes, cancers and chronic respiratory diseases) which already account for over half of hospital admissions and deaths. Furthermore, medicines for other key (but often neglected or less well managed) areas of public health such as albinism and jiggers, have been included in this KEML.

The evidence for listing medicines on the KEML 2016 was derived from a globally coordinated process of the World Health Organization (WHO), which develops the Model List of Essential Medicines, and makes the relevant information and knowledge available to countries for their own adaptation. The National Medicines and Therapeutics Committee
(NMTC), through a Technical Working Group (TWG) coordinated the adaptation of the evidence, and extensive stakeholder consultations for the updated KEML.

The KEML should therefore be used with confidence and commitment as a highly relevant, evidence-based and up to date reference document. The systematic and well-managed consensus process through which it has been produced has ensured the incorporation of current evidence-based best therapeutic practice backed by extensive scientific data and robust application of selection criteria. Therefore the selection of the items listed is well justified and suitably adapted to the prevailing health sector context.

The KEML is meant to guide medicines investments for all relevant actors in Kenya. Because of the strong evidence base, the KEML represents best practice in the selection of medicines for optimum therapeutic outcomes. Therefore, it is applicable to, and recommended for use by policymakers and public sector providers at national and county levels, by private, faith-based and NGO actors, and by development partners.

The listing of medicines in a national list such as the KEML is only the initial step of a series of measures which must be implemented to ensure that the expected benefits and substantial health impact are realised.

Given its critical importance, the Ministry of Health is committed to support the KEML and to institutionalize the underlying principles and concepts, in respect of evidence-based priority-setting for medicines and other health technologies.

This arduous and technically complex task was completed well only through the sustained commitment and dedicated work of many individuals who contributed their time and expertise at the various stages of its development.
On behalf of the Ministry of Health, I would wish to acknowledge and sincerely thank all the contributors, reviewers and editors who have made this KEML a reality\textsuperscript{2}.

I also wish to thank WHO for the solid and objective evidence base and ready guidance, and for ongoing policy guidance to optimize the KEML as a priority-setting tool for Universal Health Coverage (UHC).

Finally I would like to thank the USAID-MSH/Health Commodities and Services Management Programme (HCSM) for their financial and technical support and the DANIDA Health Sector Programme Support (HSPS) for continuous technical advice throughout this complex process.

The KEML provides a key tool in support of efforts to attain equity and high standards in healthcare. It is intended to guide medicines development, production, procurement and supply, prescribing, dispensing and use, as well the development, monitoring and evaluation of strategies, thereby enhancing Appropriate Medicines Use (AMU).

It is for use by all disciplines of healthcare workers, general practitioners, specialists and healthcare management personnel as well as students and interns.

This KEML comes at a time when Kenya is defining strategies to attain the Sustainable Development Goals (SDGs)\textsuperscript{3}, to which the country is committed. In this regard, access to medicines and vaccines is one of the cornerstones of universal health coverage (UHC), and is critical to the achievement of the health-related SDGs.

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\textsuperscript{2} See Annex 1 (p69) for a list of all the individuals involved

\textsuperscript{3} Goal 3 is ‘Ensure healthy lives and promote well-being for all at all ages’ with a key target ‘Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all’
The KEML is a key component of the Kenya Essential Package for Health (KEPH), which defines the comprehensive priority services and interventions for UHC.

The regular and consistent use of the KEML can be expected to improve healthcare, and to contribute to the attainment of the Constitutional right to health.

I therefore strongly encourage all relevant health professionals to make the best use of this KEML in their daily work, to provide feedback on its use, and any suggestions towards its improvement and future revisions.

Dr Cleopa Mailu

Cabinet Secretary for Health
Preface

Rationale for Development of the KEML

Healthcare management and therapeutics are highly dynamic fields, with new approaches, treatment protocols and therapeutic products entering the market on a continuous basis. Providing comprehensive healthcare services to the population requires heavy investments, which constitute a major and ever-increasing cost to governments, households and individuals. Therefore, effective mechanisms are needed to prioritize the various health interventions and products, in order to maximize therapeutic benefits and optimize patient outcomes. Such mechanisms must be anchored on the best available scientific evidence of cost-effectiveness, in order to objectively guide investment decisions.

In this regard, clinical management guidelines, national formularies and essential medicines lists should be developed to guide and standardize healthcare delivery and these should be regularly updated to keep pace with best practice, and to optimize investments in healthcare.

The Kenya Essential Medicines List was last revised and produced in 2010, but there was no effective mechanism for promoting and monitoring its use, and for subsequent regular review and revision. Consequently, this important guide to best practice in medicines selection became progressively outdated and consequently its relevance and usefulness in the health sector gradually diminished.

The Kenya Essential Package for Health (KEPH)

KEPH⁴ is a life-cohort based approach to the delivery of healthcare services, which defined in a comprehensive manner, the services which the sector is to prioritize so as to maintain health at all the different stages of life. It defines the priority services that are necessary to be

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⁴ For details of KEPH see Health Sector Strategic and Investment Plan (KHSSP) July 2013-June 2017, The Second Medium Term Plan for Health: Transforming Health: Accelerating Attainment of Health Goals (Available at http://www.who.int/pmnch/media/events/2013/kenya_hssp.pdf)
provided at 6 distinct levels of care – from the community level up to tertiary hospitals - for each of 6 defined life cohorts: pregnancy and the newborn (up to 2 weeks), early childhood (to 5 years), late childhood (6-12 years), adolescence and youth (13-24 years), adulthood (25-59 years) and the elderly (60+ years).

KEPH also provides the framework for referral of clients across the sector providers, and it aims to improve utilization of health services at lower levels of care, beginning at the community level, as well as networking among providers and facilities across the different levels and between the public and non-public providers. KEPH also guides the types of medicines and other health inputs to be made available at each level and for each cohort, in line with the services to be provided and the corresponding expertise for the level, as defined in the sector norms and standards.

The revised KEML strives to align with these strategic orientations in the health sector.

**The KEML in the Context of Devolved Health Care**

As described in the following sections, the KEML 2016 is derived from a robust and globally recognized process of scientific assessment of efficacy, safety and quality; as well as cost-effectiveness evaluation. The investments required for such evaluations are massive, and the processes require standardization of the evidence, in order to promote uniformity in clinical care, disease control and public health protection. Therefore, the KEML is a critical tool in ensuring the right to health by ensuring optimum therapeutic interventions. Because of this, for the national and county governments, the KEML 2016 should be the basis for selecting the medicines for procurement using public funds.

Furthermore, the national and county governments have a duty to ensure that essential medicines are available within the context of a functioning health system, at all times in adequate amounts, in the appropriate dosage forms, with assured quality and adequate information, and at a price the individual and the community can afford.

To attain this, it is imperative that national and county governments develop sustainable solutions for financing essential medicines through
increased budget allocations for health, and robust priority-setting mechanisms to optimize efficiency of the health budget. This should be accompanied by the regular updating of the KEML through a robust and evidence-based national process.

The WHO Model List of Essential Medicines

WHO is the secretariat for the Expert Committee on Selection and Use of Essential Medicines, the group of experts responsible for revising and updating the Model List of Essential Medicines (EML) and the Model List of Essential Medicines for Children (EMLc). Every medicine listed is vetted for efficacy, safety and quality, and is subjected to a comparative cost-effectiveness evaluation with other alternatives in the same class of medicines. WHO updates the lists every two years and the lists have become an important guide for governments and institutions around the world, in the development of their own essential medicines lists.

The 2015 edition (i.e. the 19th EML and 5th EMLc) includes inter alia ground-breaking new treatments for hepatitis C, various cancers (including breast cancer and leukaemia) and multi-drug resistant tuberculosis (TB). Placing a new medicine on the WHO EML is a first step towards improving access to innovative medicines that show clear clinical benefits and could have enormous public health impact globally.

The purpose of the Model List is to provide guidance for the prioritization of medicines from a clinical and public health perspective. The hard work begins with efforts to ensure that those medicines are actually available to patients. This requires collaborative effort between governments, the private sector, civil society, WHO and other international partners.

The National Medicines and Therapeutics Committee (NMTC)

The role of NMTCs is critically important in identifying appropriate medicines for use throughout the system and for guiding the use of those medicines. When operating well, a NMTC is the leading clinical coordinating body, as well as the reference point for all activities with medicines-related components. They are considered a vital important structure for ensuring evidence-based therapeutics, as part of a comprehensive quality of care program.
The first NMTC was established after the formulation of the Kenya National Drug Policy in 1994 but since then, the functioning of the NMTC has been erratic and ineffective, because of inadequate understanding of its critical role and multiple functions, a perception that it was primarily a pharmaceutical body, and a focus only on the intermittent development of therapeutic documents such as essential medicines lists and clinical guidelines rather than the provision of continuous advice and guidance on medicines and health technologies management and utilisation.

It has suffered from a lack of enabling legislation, which would entrench the evidence-based guidance into decision-making for healthcare financing and service provision. Going forward, the Ministry of Health is committed to actively supporting all NMTC-coordinated initiatives to ensure that these challenges are minimised, in order to obtain the maximum value from its work including review and revision the KEML.

In addition, healthcare institutions and facilities are encouraged to form similar medicines therapeutics committees (MTCs), to promote evidence-based processes that ensure the selection and use of those medicines that address the needs and priorities of the community in that area.

**The KEML Development Process**

**a) Background**

Kenya developed its first Essential Medicines List in 1981. Over the years, the Essential Medicines List (EML) concept has become increasingly entrenched into the health system, with successive revisions of the KEML in 1993, 2003 and 2010. Although the KEML review and development process has encountered various challenges (see below), the document is nevertheless considered a key policy and reference for the sector, and efforts are constantly made to ensure that it is updated, effectively disseminated and its regular and routine use promoted.

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5 The first Kenya Essential Medical Supplies List (KEMSL) was simultaneously developed alongside the KEML with the two retreats involving both TWGs and continuous close coordination between the two processes
b) Past experience with KEML 2010
The previous KEML (2010) was successfully developed by an ad-hoc technical working group under the supervision of the then NMTC, following a well-managed process. It was the product of extensive, diligent, highly creditable and relevant work, but it suffered from a number of challenges which compromised the expected benefits. These included: insufficient distribution & dissemination; inadequate advocacy & promotion of its multiple uses and potential benefits; absence of monitoring & evaluation to guide future revision and lack of active solicitation of feedback from users to verify its continuing relevance.

In the following years, the NMTC became dormant and suffered from uncertainties, disruption and un-coordination during a period of enormous changes and restructuring within the health sector. These changes included the promulgation of the Constitution 2010, various re-organizations of the Ministry of Health, and the onset of devolution. As a result, the intended 2-yearly review did not take place.

Further, the potential impact of the KEML as a guideline is limited by the lack of enabling legislation to mandate evidence-based cost-effectiveness evaluation in the determination of the public financing of medicines. This lack of legal status of the KEML (and the associated clinical guidelines) has also contributed to a failure to establish sustainable structures and processes within the health system, for the necessary periodic, regular and timely update. Consequently, these health system gaps have led to increasing obsolescence, ever-decreasing relevance of, and low levels of adherence to, these very useful tools.

c) Preliminary review
As a result of the above, the intended 2-yearly review did not take place. Preparatory work for updating the KEML started in late 2012, using an advance copy of the WHO Model List (ML) 2013, and compiling all the comparisons and deviations with the KEML 2010, as a key review tool and focus for selection discussions.
d) Re-establishment of the NMTC

In February 2014, after months of preparation, the NMTC\(^6\) was reconstituted and members appointed by the Principal Secretary. The composition of the membership was closely guided by best practice in this area to ensure the correct representation of all key MoH departments. The NMTC responsibilities were described as: policy development in the evaluation, selection & use of medicines & health products; standards & guidelines development & dissemination; rational prescribing and cost-effective use; IEC for health providers in matters related to medicines & their use.

In the following months, the NMTC had numerous meetings and two retreats in the course of which TORs were developed, 7 Technical Working Groups (TWGs) established (with their own TORs & members identified) and a prioritised action plan developed to guide the sequence of work in multiple areas of interest. Amongst these TWGs was one for the review and update of the KEML and another for the preparation of a first ever Kenya Essential Medical Supplies List (KEMSL) covering the selection of non-medicines items.

e) Preparation of key KEML review tools

In December 2014, the new WHO Model List 2015 (19\(^{th}\) edition for adults, 5\(^{th}\) edition for children) was made available online, necessitating a complete re-review of the KEML 2010 in comparison with this, and also with the Kenyatta National Hospital Formulary which was produced in 2013, and which gave an additional useful comparison representing a more recent picture of medicines utilisation in Kenya than the KEML 2010.

Work on preparing the tools which would be required for the eventual review and update of the KEML proceeded throughout 2015. The key tools developed as spreadsheets were

- a Yes List (comparing the WHO ML with the KEML 2010 and identifying all items on the ML but not the KEML for consideration for possible inclusion)

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\(^6\) See Annex 5 for details
f) Establishment of the review Technical Working Groups

In September 2015, again after several months of preparation, the TWGs for the KEML and KEMSL were established with the required representative membership (in line with WHO guidelines) appointed by the Director of Medical Services. Following this a secretariat was established to support the TWGs and developed Standard Operating Procedures (SOPs) for the review & update process of the KEML and the preparation of the KEMSL. These were adapted from WHO SOPs for Guidelines Development which involve the establishment of a robust, scientific methodology in order to ensure the production of a credible and reliable output anchored firmly in best scientific (evidence-based) practice. Given the time available and deadlines applicable for the current review, it was not possible to fully implement the SOP this time around, but key review and selection principles and methodologies were identified for implementation by the TWGs. To make the methodology explicit and set the rules for the process, ten key criteria were identified for application during the selection process as detailed on p.3

In November 2015, as preparation for the forthcoming review retreat, the members of both TWGs were assembled for an intensive induction meeting which oriented them to essential medicines concepts and guided them through the selection principles, criteria, process and tools (with adaptations to include medical supplies) and completed planning for the retreat.

g) Undertaking the KEML review

Following this, in relation to the KEML, discussions were held with national disease control programmes, two 3-day retreats were convened with the TWGs and numerous consultations made with

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7 HIV/AIDs, TB, Malaria, Cancer, Palliative Care, Reproductive Health, and Vaccines
specialists in all key therapeutics areas\textsuperscript{8}. Using the WHO Model List and the tools developed for the review, and through careful application of Essential Medicines principles and selection criteria, discrepancies and issues requiring clarification were identified and discussed and consensus reached on required amendments to the KEML.

In regard to the retreats, members of the TWGs were reminded of the steps to be followed and the criteria to be applied. They also each signed a Declaration of Interest form to ensure transparency, impartiality and objectivity in their work. At the retreats members of the KEML TWG carried out a systematic and thorough review of each Essential Medicines item by item, and section by section, having received relevant inputs from the consultations.

During the course of the review process important practice issues (especially relating to current irrational use of medicines or medical supplies by health professionals) were identified for urgent attention.

Following incorporation of all the agreed changes, the updated drafts of the KEML was circulated to the TWG members for final review and confirmation of its completeness and correctness and a few corrections made based on comments received.

\textbf{h) Feedback to stakeholders}

A month after the second retreat, a half-day meeting was convened at which key stakeholders\textsuperscript{9} were taken through the draft KEML, its process of development and intended multiple uses.

Participants expressed appreciation for the high quality and thoroughness of the work done, but were most concerned that the KEML should (this time) be fully implemented in order to achieve the intended benefits and maximum therapeutic impact. They were

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\textsuperscript{8} These included antimalarials, psychotherapeutics, anaesthetics, dermatologicals, ophthalmologicals, anti-cancer medicines, ARVs, cardiology, immunologicals, nutritional products, radiologicals, ENT medicines, gastroenterology, hepatitis, renal medicines/dialysis fluids, and endocrinology

\textsuperscript{9} Including senior MoH management, heads of national disease control programmes, CEOs of major hospitals, regulatory and supply organisation officials, some County Executives for Health or their representatives, and NMTC members
informed that a comprehensive implementation plan would be put together to ensure that this would indeed be the case.

i) **Finalisation of the document for printing**

Simultaneous post-retreat work was completed to produce a print-ready version for signing-off by the Cabinet Secretary, prior to printing, official launch and dissemination.

**Challenges faced during the review and revision process**

Despite the systematic, scientific approach and best efforts of the TWG, a number of challenges presented themselves during the process of review and revision of the KEML including:

- **Lack of required information.** For certain proposed items information was missing or incomplete in terms of such aspects as: (relative) cost, availability, cost-effectiveness, numbers of patients expected to require/benefit from the item (to assist in making a judgement on public health priority), limited published scientific information on an item and its use, and lack of written submissions for proposed list amendments. These constraints highlight a lack of the health technology assessment (HTA) required to ensure fully evidence-based (scientific) selection (ie. investment) decisions and thus robust justification for each of these decisions

- **Inadequate orientation of some contributors to essential medicines concepts.** Although members of the TWG were well-oriented having undergone an intensive and comprehensive induction programme, most of the specialists engaged to provide inputs into the process had not had the benefit of such orientation. Efforts were made to provide a brief explanation of the purpose of the KEML and the key criteria to be applied, but not surprisingly many proposals were received which, although mostly representing good clinical practice, did not fit the criteria for listing as an essential medicine on the KEML

- **Inconsistencies between the national treatment guidelines, hospital formulary and essential medicines lists.** Although the Clinical
Management and Referral Guidelines\textsuperscript{10} (2009) and the Kenyatta National Hospital Formulary (2013) were produced in good faith and through extensive and inclusive technical consultative processes, the management of the processes was not fully in line with best international good practice as for example defined by the \textit{WHO Handbook for Guideline Development}\textsuperscript{11} and the resulting output inevitably compromised by this. For example, the documents contain many more medicines than are listed on the WHO Model List, some non-recommended and obsolete medicines and multiple medicines class members, eg. numerous beta-blockers, where best practice would dictate identifying a first choice medicine and strictly limited, well-justified second-line options.

The Clinical Management and Referral Guidelines were not fully responsive to essential medicines criteria in the selection of medicines for use in managing the conditions covered and have, with the passage of time, inevitably become progressively obsolete. Thus they are not well-aligned with the new KEML and are in need of urgent review and update following a well-defined, systematic and evidence-based process.

The NMTC is expected to oversee the next review of the clinical guidelines following a Standard Operating Procedure being prepared in line with WHO recommendations\textsuperscript{12} and international best practice. The NMTC will also be expected to supervise the preparation of a \textit{National Formulary} derived from the KEML. This is also urgently required to provide all the necessary prescribing and other information on the medicines in the KEML to ensure (together with the clinical guidelines) that they are used appropriately, so as to derive the maximum therapeutic benefit.

\textbf{Time constraints.} Lengthy delays in undertaking the required regular review of the obsolete KEML 2010 and the increasing urgency to

\textsuperscript{10} \textit{Clinical Management and Referral Guidelines} for Level 1 Community, for Levels 2-3 Primary Care, and for Levels 4-6 Hospitals (3 books) (Ministry of Health, 2009)

\textsuperscript{11} Available at \url{http://apps.who.int/iris/bitstream/10665/75146/1/9789241548441_eng.pdf}

\textsuperscript{12} See Handbook for Guideline Development, WHO 2012 (available at \url{http://www.who.int/kms/guidelines_review_committee/en/})
produce an updated list as soon as possible - for example, to guide medicines procurement decisions and improve current medicines utilisation practices – meant that the full SOP for the review and revision process could not be applied for the current version. Thus, compromises had to be made to enable the process to be completed expeditiously. For example, it was not possible to insist on full written justifications to be submitted in support of list amendment proposals. Nor was it feasible to place proposals in the public domain for review and comment.

- **Prohibitive costs.** This was probably the greatest challenge facing selection decisions and it presents a major dilemma. A medicine may satisfy all other criteria but be unaffordable given the likely continuing limited resources available for medicines procurement for the public health system. It was the considered opinion of the TWG that no matter how effective a medicine might be, if its cost was so prohibitive as to be out of consideration for public sector procurement, there was no point listing it on the KEML. However, it is intended that medicines costs will be closely monitored and future selection decisions reconsidered accordingly as part of the planned continuous review process.

For medicines already on the WHO Model List, the above challenges did not apply, since the ML incorporates best current practice backed up by extensive scientific evidence.

So the major criteria remaining to be considered were: is the proposed medicine required/suitable for use in Kenya, is it (cost-)effective and is it (likely to be) available. The bigger challenge involved medicines not on the Model List.

For these, a selection decision was based on a reasonable judgement given the best available information - with a proviso that the NMTC monitors the effect of the decision, utilisation and impact of the medicine, and strives to obtain more supportive evidence for its continued inclusion in the list.
Recommendations for future KEML review and revision

- **Legal establishment of the NMTC.** In the context of the SDGs, the KEML and the clinical guidelines are critical tools for the attainment of UHC. Therefore, in order to ensure that health financing decisions are based on sound and robust evidence, it is imperative that the NMTC and its associated processes of economic evaluation become legally entrenched into the health system, through an appropriate statutory committee or agency.

- **Full application of the SOP** for the KEML review and revision process including: the requirement for written amendment proposals backed up by scientific justification, greater involvement of stakeholders in general and key stakeholders in particular, publishing of announcements of the process, invitations for submissions and amendment proposals on the Ministry of Health website, and early commissioning of expert (specialist) reviews of priority sections of the list.

- **Development of the required health technology assessment**¹³ (HTA) capacity to facilitate comprehensive and complete assessment of medicines proposed for addition to the list, particularly where these are not on the WHO Model List (which have been subjected to adequate HTA to support their inclusion).

- **Regular review and proper alignment.** The KEML should be kept under constant review and a new edition published every 2 years in line with the updates of the WHO Model List (ML). It is important that efforts be made to ensure that future editions of the national clinical guidelines and KEML are properly aligned, in order to realize the full benefits of evidence-based health care.

- **Continued and intensified advocacy** for the KEML, and improved awareness and application of essential medicines principles,

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¹³ HTA is ‘Health technology assessment (HTA) is a multidisciplinary activity that systematically examines the technical performance, safety, clinical efficacy, and effectiveness, cost, cost-effectiveness, organizational implications, social consequences, legal, and ethical considerations of the application of a health technology’ [Report from the EUR-ASSESS Project, *Int J Technol Assess Health Care* 1997, 13(2)]
especially in making medicines selection decisions in preparation of clinical guidelines, essential medicines lists and formularies

- **Active monitoring and assessment** of the utilisation of the KEML for the uses described on p.3, and of the utilisation and impact of listed medicines, especially those which are newly introduced

- **Utilise the NMTC as a key resource in contributing to the development of health financing strategies.** Kenya is reviewing its health financing strategy to move towards insurance-based financing, as part of the reforms to facilitate UHC. A key requirement is to ensure that the health interventions and technologies listed in the KEPL are derived from systematic and objective cost-effectiveness evaluation. In this regard, it is important that clear criteria be established to guide evidence-based decision-making on which medicines and other health technologies can be procured and/or reimbursed with public funds. The current NMTC processes and procedures provide a good starting point, and can be further refined by adapting from similar successful processes in other countries

**KEML Revision & Amendment Procedure**

It is anticipated that the KEML will be reviewed constantly, and the full list updated at least every 2 years, depending on the nature and extent of cumulative amendments required. Urgent amendments will be disseminated as required through the already established coordination forums or other mechanisms for communication within the healthcare system.

The NMTC (or an equivalent statutory entity) will undertake the review and revision of future editions of the Clinical Guidelines and KEML. In this strictly evidence-based process, the NMTC will be well guided by:

- feedback obtained from operational research on KEML use in each of the key medicines management areas identified in the **Main Uses of the KEML** section on p.3
- reports on KEML use obtained through feedback by users and during the course of supportive supervision
- MoH-approved changes in disease management protocols (with concurrent changes to the relevant Clinical Guidelines)
KEML 2016

- changes made to the biannual WHO Model Lists
- results of other relevant health research into disease management and medicines utilisation
- new information provided by medicines manufacturers on their products
- new information arising through quality assurance systems, eg. pharmacovigilance and post-market surveillance
- KEML Amendment Proposal Forms (see p77) received from users

In order to understand fully the relevance and wide range of application of the KEML, readers are urged to become familiar with the **Main Uses of an EML** as summarised on p.3 and to study the **Selection Criteria** used as listed on p.3. This will definitely enrich the review & revision needed to keep the KEML relevant and useful as a tool for improving the quality, reliability and cost-effectiveness of health care services.
Presentation of Information

Medicines on the KEML are listed by broad therapeutic categories (Sections). Within each Section, medicines appear in alphabetical order and with the appropriate dosage forms indicated. The listing does not imply preference for one medicine over another.

Core List

The Core List represents the priority needs for the health-care system. Medicines on the Core List are:

- Considered to be the most efficacious, safe and cost-effective for the relevant conditions
- Those which do not require specialist inputs (see Specialist List below)
- Expected to be routinely available in health facilities (at the appropriately designated levels of care)
- Expected to be affordable to the majority of the population. All efforts should be made to ensure equitable access to medicines on the Core List (and the most critical Specialist List items).

Priority conditions corresponding to the Core List were identified on the basis of current and anticipated future public health relevance and their potential for safe and effective treatment.

Specialist List

These items listed in italics are essential medicines for priority conditions for which specialized diagnostic or monitoring facilities, and/or specialist medical care, and/or specialist training are needed.

No level of use is indicated for such items as the level at which particular required specialist inputs are available will vary over time depending on the level of development of, and investment in, the health system in response to the aim of greatly improving access to specialist services.

Special efforts should be made to acquire Specialist List items, with particular priority on those recommended as 1st line medicines.
Level of Use

This indicates the lowest level of the healthcare delivery system at which each particular medicine may reasonably be expected to be appropriately used (ie. after correct diagnosis and a correct decision on management of the condition according to current best therapeutic practice).

It is thus the lowest level at which the medicine is expected to be available for use (ie. distributed, stored, prescribed and dispensed).

The current levels are as follows:

1 = Community Health Services
2 = Dispensary/Clinic
3 = Health Centre
4 = Primary Hospital
5 = Secondary Hospital
6 = Tertiary Hospital

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14 Formerly District Hospitals, now (Sub-)County Hospitals
15 Formerly Provincial Hospitals, now County Referral Hospitals
16 National (Referral) Hospitals
Abbreviations & Acronyms

Used in the text:

ADRs  Adverse Drug Reactions
EM    Essential Medicine
KEPH  Kenya Essential Package for Health
MTC   Medicines & Therapeutics Committee (Institutional)
NMTC  National MTC
TWG   Technical Working Group

Used in the KEML table:

dds  adsorbed
amp  ampoule
conc concentrate(d)
BP   British Pharmacopoeia (current edition)
DT   Dispersible tablet
e/c  enteric-coated (tablet)
f/c  film coated (tablet)
HCl  hydrochloride salt
hyd  hydrogen
IM   intramuscular
Inj  injection
IU   international units
IV   intravenous
m/r  modified (prolonged, delayed, slow) release
n/a  not applicable
MU   mega (million) units
PFI  powder for injection (to be reconstituted with diluent)
PFOL powder for oral liquid (to be reconstituted with diluent)
SC   subcutaneous
sod  sodium
TU   Tuberculin units
Essential Medicines List (EML)

Background Information

Enhancing Access to Essential Medicines (EM)

Access to Essential Medicines is a core component of the right to health, and a requisite to the attainment of national health goals. This national Essential Medicines List (EML) defines the priority focus for investment in medicines by the public health sector, towards ensuring the provision of equitable healthcare to the population in line with defined sector policies, strategies, norms and standards.

This EML is based on the Concept of Essential Medicines, defined by WHO as:

- those that meet priority health care needs of the population
- carefully and systematically selected using an evidence-based process with due consideration of:
  - public health relevance
  - clear evidence on efficacy and safety
  - comparative cost-effectiveness
- meant to be always available in a functioning health-care system:
  - in adequate amounts
  - in appropriate dosage forms
  - with assured quality and adequate information
  - at an affordable price for the individual & community

This EML is derived from the WHO Model List #19 (Adults) and #5 (Children) of 2015 and various national guidelines for specific conditions (eg. malaria, hepatitis, TB/leprosy, HIV/AIDS, STI, and IMCI) which represent the best current therapeutic practice in each of the priority conditions covered

Benefits of an EML to a Country

Priority Setting

The EML represents priority-setting on two levels:
KEML 2016

- Careful identification of the priority health interventions, and the careful selection of a limited range of EM results in a higher quality of care, better medicines management (including improved quality) and more cost-effective use of health resources

**General benefits**

- Many studies show the positive impact of clinical guidelines and EMLs on the availability and proper use of medicines within health care systems. This is very important in resource-poor settings where public sector medicines availability is often erratic

- Measures to ensure regular EM supply will result in real health gains and in increased public confidence in health services - and in the government of the day

**Specific benefits**

- **Supply system:** use of an EML leads to easier and more-efficient procurement, storage, distribution, stock management & record keeping; lower stocks (smaller item range, predictable procurement with reduced level of safety stocks); better quality assurance (can focus on fewer items); easier dispensing (greater familiarity with fewer items); more effective local production (efficiency in producing fewer items for a more predictable market)

- **Prescribing:** use of an EML enables prescriber training to be more focused & easier to deliver, more experience to be gained with fewer medicines, production of more focused medicines information (eg. National Formulary), minimizing of irrational treatment alternatives and better recognition of adverse drug reactions (ADRs)

- **Cost:** use of an EML should lead to lower treatment costs (through selection of the most cost-effective items), more competition (through identification of key items for national investment and therefore a substantial market for potential suppliers) and lower supplies management costs (fewer items to manage)

- **Patient Use:** use of an EML will result in focused education efforts on fewer, well known medicines, improved patient knowledge on medicines use, increased treatment adherence and improved medicines availability
**Essential Medicines Selection Criteria**

Inclusion of a medicine on the EML should be considered if the medicine, as far as reasonably possible, meets the following criteria:

1. **Relevance/Need**: Public health relevance and contributes towards meeting the priority health care needs of the population
2. **Safety**: Scientifically proven and acceptable safety (side-effects & toxicity) in its expected way of use
3. **Comparative Efficacy**: Proven and reliable efficacy compared with available alternatives (based on adequate and scientifically sound data from clinical studies)
4. **Quality**: Compliance with internationally acceptable quality standards, as recognized by the national medicines regulatory authority - currently the Pharmacy and Poisons Board (including stability under expected conditions of storage & use)
5. **Performance**: Sufficient evidence of acceptable performance in a variety of settings (eg. levels of health care)
6. **Comparative cost-benefit**: a favourable cost-benefit ratio (in terms of total treatment costs) compared with alternatives
7. **Single ingredient**: Unless there is no suitable alternative available, a medicine should have only a single active ingredient
8. **Local Suitability/Appropriateness**: Preference should be given to a medicine which is well known to health professionals, suitable for local use (eg. dose-form, staff training, support facilities) and socio-culturally appropriate (eg. method of use/administration)
9. **Pharmacokinetic Profile**: Wherever possible the medicine should have favourable pharmacokinetic properties (absorption, distribution, metabolism and excretion; drug interactions)
10. **Local Production**: Wherever possible the medicine should have the possibility of being manufactured locally (for improved availability, reduced procurement costs)

**Main Uses of the KEML**

The KEML is a cornerstone of the national healthcare system, and a key component of both the national health and national pharmaceutical
policies. It is a vitally important tool and reference source for guiding the management of common health conditions in the country, as well as the management and utilization of medicines at national, county and institutional (health facility) levels.

The KEML aims to support the smooth functioning of the healthcare system and radically improve the availability and appropriate use of medicines, for improved health status of the population. The health sector will realize the full benefits of the KEML when it is routinely, appropriately and fully utilized in the following key areas:

1. **Healthcare Financing & Medicines Supply Budgeting:** The KEML should be used as a basis for prioritization of investment of available healthcare finances and, together with careful & systematic quantification of needs, for the estimation of required annual medicines supply budgets *at all levels of the healthcare system*. It should also form the basis for medicines financing by development partners.

2. **Health Insurance Schemes:** Medicines are a major cost element in healthcare financing for Government, insurance schemes and partners. As the sector elaborates a comprehensive healthcare financing system, the KEML should be used as the basis for expanding coverage or reimbursement of medicines costs (e.g. positive lists with 100% reimbursement only for items on the EML).

3. **Procurement, Supply & Distribution (including Donations):** The KEML should be used as a basis for determining medicines procurement requirements for all healthcare levels, i.e. from dispensary level, to county level and up to the national referral level. This applies equally to public procurement by the national and county governments as well as procurement by the faith-based, NGO, private sector and other actors. The strong evidence-base for expected clinical benefits will help to guide investment of scarce health resources towards providing the most appropriate medicines, to patients and the public.
Use of the KEML will help focus management efforts on a needs-based and prioritized list of critical items, and can greatly improve the functioning and efficiency of medicines supply & distribution systems. The KEML should be used as a basis for pre-printed order forms for the pull system of medicines supply to health facilities. The level of use (LOU) designation should be used to guide the supply and use of medicines at the appropriate levels of care, as defined in KEPH.

4. **Donations:** potential medicines donors and recipients should use the KEML to determine the most appropriate types and presentations of medicines for donation to meet public health priorities, including health emergencies. This should be done in line with up-to-date national guidelines on donation of medicines and health products.

5. **Healthcare Workforce Development:** up-to-date clinical guidelines and the KEML should be key references in the training of health care personnel, to provide correct orientation on evidence-based management of health conditions, as well as the appropriate prescribing, dispensing and medicines utilisation. This includes formal and in-service training, as well as continuing professional education for medical, pharmaceutical and nursing professionals. Use of these tools can help to correctly orientate health service delivery towards optimal utilization of medicines.

6. **Medicines Regulation & Monitoring (including Quality Assurance):** The KEML should be used as a basis for ensuring an effective system of regulation of all activities involving medicines (including import, export, local production, registration, levels of distribution/use, quality monitoring, post-market surveillance [pharmacovigilance], prescribing and dispensing). The KEML should guide medicines regulatory decision-making, aimed at enhancing access to Essential Medicines. This may include fast-track registration and incentives to stimulate local pharmaceutical production of items listed on the KEML. Information that is comprehensive and unbiased should be made available to health workers and the public and due emphasis
placed on market surveillance for quality, safety and efficacy of
items listed on the KEML.

7. **Appropriate Use of Medicines:** The KEML should be used as a basis
for designing strategies and initiatives to promote the correct use of
medicines by health professionals, patients and the public. Such
activities should focus on promoting and improving utilization of
Essential Medicines (on the KEML) as the most appropriate for
attaining maximum health benefits.

In particular the KEML should be used as the focus of related
surveys, studies, operational research by the National Medicines &
Therapeutics Committee (NMTC) and institutional MTCs, with the
aim of improving the availability, affordability, prescribing,
dispensing and use of medicines for greater public health impact. It
should also be used as a basis for appropriate and effective
additional monitoring and control measures applicable to items
designated on the list for restricted use only.

**Antimicrobial Resistance and Antibiotic Use Policies:** The KEML
should be used to restrict antibiotic availability in health facilities to
those selected as the most appropriate for use at each level in the
current circumstances and context of changing resistance patterns.
Systematic data through drug efficacy monitoring and
pharmacovigilance, should inform future review of the KEML.

8. **Medicines Policy Monitoring & Operational Research:** up-to-date
clinical guidelines and the KEML should be used to identify
parameters for monitoring, evaluation and operational research in
the health sector, with the aim of ensuring the continued relevance
of medicines and pharmaceutical policies to current health care
requirements; as well as establishing the required evidence base for
effective, systematic and regular KEML review and revision.

9. **Pharmaceutical Manufacturing:** the KEML should be used as a basis
for local manufacturing decisions focusing on priority public health
items and formulations. Incentives for local production should
primarily target products listed on the KEML.
Summary of Main Changes in KEML 2016

The process of developing this KEML has resulted in significant changes to the items listed in the KEML 2010. The changes comprise additions of medicines that were previously not on the list, deletions of medicines that are either considered obsolete, or where other alternatives are considered more cost-effective based on available evidence; as well as changes to presentations to facilitate better administration and use.

The summary below highlights the main changes made in preparation of the KEML 2010.

Amendments Summary

Deletions from KEML 2010 131
Additions to KEML 2016 337
Net increase 206

KEML 2016 Totals

Total drugs\textsuperscript{18} 452
Total presentations\textsuperscript{19} 620
Total list entries 687

\textsuperscript{17} These are expressed in terms of entries, ie. in a few cases there may be more than one list entry for a given item
\textsuperscript{18} Drug combinations are counted separately
\textsuperscript{19} ie. all dose-forms, strengths, sizes of items; there are 67 multiple entries giving the total of 687 entries on the KEML
Kenya
Essential Medicines List 2016
<table>
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<tr>
<th>#</th>
<th>Item Added</th>
<th>Indication/Notes</th>
</tr>
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<tbody>
<tr>
<td>1.1.1.2</td>
<td>Isoflurane</td>
<td>Inhalational anaesthesia; improved adverse effect profile; replaced halothane in some countries</td>
</tr>
<tr>
<td>1.1.1.3</td>
<td>Medical air inhalation (medicinal gas)</td>
<td>Useful substitute for nitrous oxide in patients sensitive to oxygen toxicity</td>
</tr>
<tr>
<td>1.1.2.2</td>
<td>Propofol injection 10mg/mL</td>
<td>IV anaesthesia (alt: thiopentone); improved adverse effect profile, more rapid recovery; useful for diagnostic sedation</td>
</tr>
<tr>
<td>1.2.2</td>
<td>a) Lidocaine HCl injection 2% (30mL vial) (preservative-free)</td>
<td>Replaces lignocaine HCl injection 1% (can be diluted to make 1% as required)</td>
</tr>
<tr>
<td></td>
<td>b) Lidocaine HCl topical solution 2% (spray bottle)</td>
<td>Replaces lignocaine topical solution 4%</td>
</tr>
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<td>1.3.2</td>
<td>Chlorphenamine maleate injection²⁰ 10mg/1mL amp</td>
<td>Allergic reactions to morphine</td>
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<tr>
<td>1.3.5</td>
<td>Fentanyl injection 50 micrograms/mL</td>
<td>Useful intraoperative medication (rapid onset, short-acting)</td>
</tr>
<tr>
<td>1.3.3</td>
<td>a) Midazolam injection 1mg/1mL amp</td>
<td>Replace diazepam presentations (faster onset and recovery)</td>
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<tr>
<td></td>
<td>b) Midazolam oral liquid 2mg/mL [c]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) Midazolam tablet 7.5mg</td>
<td></td>
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<td>2.1.3</td>
<td>a) Paracetamol injection 10mg/mL (100mL vial)</td>
<td>Post-operative analgesia only</td>
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<tr>
<td>2.2.2</td>
<td>b) Morphine oral liquid 1mg/mL</td>
<td>Severe chronic pain</td>
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<tr>
<td></td>
<td>c) Morphine oral liquid 10mg/mL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d) Morphine tablet 30mg (prolonged-release)</td>
<td>Replaces 60mg (for greater dosing flexibility)</td>
</tr>
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<td>2.3.4</td>
<td>c) Diazepam gel or rectal solution 5mg/mL (0.5mL tube)</td>
<td>Alternative presentation (where oral route not possible)</td>
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<td>2.3.5</td>
<td>Gabapentin tablet 300mg</td>
<td></td>
</tr>
<tr>
<td>2.3.6</td>
<td>a) Haloperidol injection 5mg/1mL amp</td>
<td>Improved symptom management in palliative care</td>
</tr>
<tr>
<td></td>
<td>b) Haloperidol tablet 5mg</td>
<td></td>
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<td>2.3.7</td>
<td>Hyoscine butylbromide injection 20mg/mL</td>
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<td>2.3.9</td>
<td>Lactulose oral liquid 3.1-3.7mg/5mL [c]</td>
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<tr>
<td>2.3.11</td>
<td>Loperamide capsule 2mg</td>
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²⁰ Added to this section (was already listed elsewhere in KEML 2010)
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<tr>
<td>2.3.12</td>
<td>a) Metoclopramide injection 5mg/mL</td>
<td>Improved symptom management in palliative care</td>
</tr>
<tr>
<td></td>
<td>b) Metoclopramide oral liquid 5mg/5mL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) Metoclopramide tablet 10mg</td>
<td></td>
</tr>
<tr>
<td>2.3.13</td>
<td>c) Midazolam oral liquid 2mg/mL [c]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d) Midazolam tablet 7.5mg</td>
<td></td>
</tr>
<tr>
<td>2.3.14</td>
<td>a) Ondansetron injection 2mg/mL [c]</td>
<td></td>
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<tr>
<td></td>
<td>b) Ondansetron tablet 4mg [c]</td>
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<tr>
<td>3.1</td>
<td>a) Cetirizine oral liquid 5mg/5mL [c]</td>
<td>Replaces deleted chlorphenamine (better adverse effect profile)</td>
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<td>b) Cetirizine tablet 10mg</td>
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<td>4.1.1</td>
<td>Activated charcoal PFOL 50g</td>
<td>Replaces activated charcoal tablet 250mg as preferred presentation</td>
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<td>4.2.3</td>
<td>a) Deferasirox tablet 100mg</td>
<td>Iron poisoning</td>
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<td></td>
<td>b) Deferasirox tablet 400mg</td>
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<td>4.2.4</td>
<td>Flumazenil injection 100mcg/mL</td>
<td>Benzodiazepine poisoning</td>
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<td>4.2.6</td>
<td>Protamine sulphate injection 10mg/mL</td>
<td>Heparin overdose</td>
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<td>4.2.9</td>
<td>a) Ethanol injection 100%</td>
<td>Methanol poisoning</td>
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<tr>
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<td>b) Ethanol oral liquid 95-96%</td>
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<td>4.2.10</td>
<td>Fomepizole sulphate injection 5mg/mL</td>
<td>Methanol poisoning</td>
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<td>4.2.12</td>
<td>Pralidoxime chloride PFI 1g</td>
<td>Organophosphate poisoning</td>
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<td>4.2.14</td>
<td>Sodium nitrite injection 30mg/mL</td>
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<td>4.2.15</td>
<td>Sodium thiosulphate injection 250mg/mL</td>
<td>Cyanide poisoning</td>
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<td>5.2</td>
<td>Diazepam gel or rectal solution 5mg/mL</td>
<td>Replaces diazepam injection in children (preferable presentation)</td>
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<td>5.3</td>
<td>Gabapentin tablet 300mg</td>
<td>Focal seizures</td>
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<tr>
<td>5.4</td>
<td>Lorazepam injection 4mg/mL</td>
<td>Replaces diazepam injection in adults (recommended 1st line parenteral anticonvulsant, better adverse effects profile)</td>
</tr>
<tr>
<td>5.6</td>
<td>a) Phenobarbital sodium injection 30mg/mL amp [c]</td>
<td>Paediatric emergencies</td>
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<tr>
<td>5.9</td>
<td>a) Lamotrigine tablet 25mg</td>
<td>Refractory epilepsy</td>
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<td>b) Lamotrigine tablet 100mg</td>
<td></td>
</tr>
<tr>
<td>6.1.2.1</td>
<td>Albenazole tablet 400mg (chewable) [c]</td>
<td>Required for current management protocols</td>
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21 Added to this section (was already listed elsewhere in KEML 2010)
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<tr>
<td>6.1.2.2</td>
<td>Diethylcarbamazine tablet 100mg</td>
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<td>6.2.1.1</td>
<td>a) Amoxicillin tablet 250mg</td>
<td>Replaces PFOL 125mg/5mL</td>
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<tr>
<td></td>
<td>(dispersible, scored)</td>
<td></td>
</tr>
<tr>
<td>6.2.1.2</td>
<td>a) Amoxicillin + clavulanic acid tablet 200mg + 28.5mg (DT, scored)</td>
<td>Replaces PFOL 250mg + 62.5mg/5mL</td>
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<tr>
<td></td>
<td>b) Amoxicillin + clavulanic acid tablet 875mg + 125mg</td>
<td>Replaces tablet 625mg</td>
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<td>6.2.1.3</td>
<td>Benzathine benzylpenicillin PFI 900mg (1.2MU) vial</td>
<td>Preferred presentation; replaces 1.44g (2.4MU) vial</td>
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<td>6.2.1.5</td>
<td>Cefazolin PFI 1g vial</td>
<td>For restricted use in surgical premedication prophylaxis</td>
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<tr>
<td>6.2.1.9</td>
<td>Phenoxympenidicillin tablet 250mg</td>
<td>For restricted use in sickle-cell prophylaxis &amp; rheumatic heart disease prophylaxis (as alternative to benzathine penicillin where this is unsuitable)</td>
</tr>
<tr>
<td>6.2.1.11</td>
<td>a) Imipenem + cilastin PFI 250mg + 250mg vial</td>
<td>For specialist 2nd line use only in life-threatening hospital-acquired infections due to suspected or proven multi-drug resistant organisms</td>
</tr>
<tr>
<td></td>
<td>b) Imipenem + cilastin PFI 500mg + 500mg vial</td>
<td></td>
</tr>
<tr>
<td>6.2.2.2</td>
<td>a) Ciprofloxacin oral liquid 250mg/5mL [c]</td>
<td>For use in children</td>
</tr>
<tr>
<td>6.2.2.9</td>
<td>Tinidazole tablet 500mg</td>
<td>Alternative to metronidazole; longer action permits single daily dosing for improved adherence</td>
</tr>
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<td>6.2.2.10</td>
<td>Ciprofloxacin solution for IV infusion 2mg/mL (50mL bottle) [c]</td>
<td>Required additional dose form for use in children</td>
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<tr>
<td>6.2.3.1</td>
<td>a) Clofazamine capsule 50mg</td>
<td>For use in recommended national treatment regime</td>
</tr>
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<td></td>
<td>b) Clofazamine capsule 100mg</td>
<td></td>
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<td>6.2.4.9</td>
<td>b) Rifampicin + isoniazid + pyrazinamide + (RHZ) [c]</td>
<td>Required paediatric dose-form</td>
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<td>6.2.4.12</td>
<td>Bedaquiline tablet 100mg</td>
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<td>6.2.4.13</td>
<td>Capreomycin PFI 1g vial</td>
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<td>6.2.4.14</td>
<td>Cycloserine tablet 250mg</td>
<td>For specialist use in MDR TB</td>
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<td>Delamanid tablet 50mg</td>
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<td>6.2.4.17</td>
<td>Levofoxacin tablet 500mg (scored)</td>
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<td>6.2.4.18</td>
<td>Linezolid tablet 600mg</td>
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<td>Moxifloxacin tablet 400mg</td>
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<td>6.2.4.20</td>
<td>p-aminosalicylic acid granules 4g</td>
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<td>6.2.4.21</td>
<td>Prothionamide tablet 250mg</td>
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<td>6.2.4.22</td>
<td>Rifabutin capsule 150mg</td>
<td>For specialist use in MDR TB</td>
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<td>6.3.1</td>
<td>Clotrimazole vaginal tablet 500mg</td>
<td>Replaces 200mg (improved adherence)</td>
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<td>6.4.1.1</td>
<td>Aciclovir PFI 250mg vial</td>
<td>Required additional presentation</td>
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<td>6.4.1.4</td>
<td>a) Tenofovir disoproxil fumarate (TDF) tablet 150mg</td>
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<td>b) Tenofovir disoproxil fumarate (TDF) tablet 200mg</td>
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<td>6.4.2.1</td>
<td>a) Efavirenz tablet 200mg</td>
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<tr>
<td></td>
<td>b) Efavirenz tablet 400mg</td>
<td></td>
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<tr>
<td></td>
<td>c) Efavirenz tablet 600mg</td>
<td></td>
</tr>
<tr>
<td>6.4.2.2</td>
<td>a) Etravirine tablet 25mg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Etravirine tablet 100mg</td>
<td></td>
</tr>
<tr>
<td>6.4.2.3.1</td>
<td>Atazanavir + ritonavir tablet 300mg + 100mg</td>
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</tr>
<tr>
<td></td>
<td>a) Darunavir (TCM) oral liquid (susp) 100mg/mL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Darunavir tablet 75mg (f/c)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) Darunavir tablet 100mg (f/c)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d) Darunavir tablet 600mg (f/c)</td>
<td></td>
</tr>
<tr>
<td>6.4.2.3.4</td>
<td>a) Ritonavir oral liquid 400mg/5mL</td>
<td>Required for updated HIV management regimes</td>
</tr>
<tr>
<td></td>
<td>b) Ritonavir tablet 100mg (heat-stable)</td>
<td></td>
</tr>
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<td>6.4.2.4.1</td>
<td>Raltegravir tablet 100mg</td>
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<tr>
<td></td>
<td>Raltegravir tablet 400mg (f/c)</td>
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</tr>
<tr>
<td></td>
<td>a) Abacavir + lamivudine tablet 60mg + 30mg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Abacavir + lamivudine tablet 120mg + 60mg</td>
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</tr>
<tr>
<td></td>
<td>c) Abacavir + lamivudine tablet 600mg + 60mg</td>
<td></td>
</tr>
<tr>
<td>6.4.2.5.1</td>
<td>a) Efavirenz + lamivudine + tenofovir tablet 400mg + 300mg</td>
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</tr>
<tr>
<td></td>
<td>b) Efavirenz + lamivudine + tenofovir tablet 600mg + 300mg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) Efavirenz + lamivudine + tenofovir tablet 600mg + 300mg</td>
<td></td>
</tr>
<tr>
<td>6.4.2.5.3</td>
<td>Emtricitabine + tenofovir tablet 200mg + 300mg</td>
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<td>6.4.2.5.4</td>
<td>Lamivudine + tenofovir tablet 300mg + 300mg</td>
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<tr>
<td>6.4.2.5.5</td>
<td>a) Lamivudine + zidovudine tablet</td>
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<td>#</td>
<td>Item Added</td>
<td>Indication/Notes</td>
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<tr>
<td>6.4.3.1</td>
<td>Ganciclovir PFI 500mg vial</td>
<td>Cytomegalovirus retinitis (CMV)</td>
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<td>6.4.3.2</td>
<td>a) Ribavirin tablet 200mg (film coated)</td>
<td>Viral haemorrhagic fevers and hepatitis C</td>
</tr>
<tr>
<td></td>
<td>b) Ribavirin tablet 400mg (film coated)</td>
<td></td>
</tr>
<tr>
<td>6.4.4.1.1</td>
<td>Pegylated interferon alfa-2a injection 180 micrograms (vial or prefilled syringe)</td>
<td>Hepatitis B</td>
</tr>
<tr>
<td>6.4.4.1.2</td>
<td>Tenofovir disoproxil fumarate tablet 300mg</td>
<td></td>
</tr>
<tr>
<td>6.4.4.2.1</td>
<td>Pegylated interferon alfa-2a injection 180 micrograms (vial or prefilled syringe)</td>
<td>Hepatitis C</td>
</tr>
<tr>
<td>6.4.4.2.2</td>
<td>a) Ribavirin tablet 200mg (f/c)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Ribavirin tablet 400mg (f/c)</td>
<td></td>
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<tr>
<td>6.5.3.1.1</td>
<td>b) Artemether + lumefantrine tablet 20mg + 120mg (dispersible)</td>
<td>For patients &lt;24kg</td>
</tr>
<tr>
<td></td>
<td>c) Artemether + lumefantrine tablet 80mg + 480mg</td>
<td>For patients &gt;35kg; reduced pill burden</td>
</tr>
<tr>
<td>6.5.3.1.2</td>
<td>a) Artesunate injection 30mg vial</td>
<td>Reduced waste in paediatric use</td>
</tr>
<tr>
<td></td>
<td>b) Artesunate injection 60mg vial</td>
<td>For 1st line treatment of severe malaria</td>
</tr>
<tr>
<td>6.5.3.1.3</td>
<td>Dihydroartemisinin + piperaquine (DHA+PPQ) tablet (scored) 40mg + 320mg</td>
<td>For 2nd line treatment of uncomplicated malaria (only after confirmed treatment failure with artemether + lumefantrine)</td>
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<tr>
<td>6.5.3.1.5</td>
<td>Primaquine tablet 7.5mg</td>
<td>For radical cure of P. vivax infection</td>
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<tr>
<td>6.5.3.2.2</td>
<td>Proguanil HCl tablet 100mg</td>
<td>For malaria prophylaxis in sicklers and TSS</td>
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<tr>
<td>6.5.4.2</td>
<td>Sulfadoxine + pyrimethamine tablet 500mg + 25mg</td>
<td>Use instead of deleted sulphadiazine and pyrimethamine</td>
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<tr>
<td>7.1.3</td>
<td>Paracetamol suppository 125mg [c]</td>
<td>Required paediatric presentation</td>
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<td>8.1.2</td>
<td>Ciclosporin capsule 100mg</td>
<td>For reduced pill burden with higher doses</td>
</tr>
<tr>
<td>8.1.3</td>
<td>a) Methylprednisolone PFI 125mg (as sodium succinate)</td>
<td>Kidney transplantation</td>
</tr>
<tr>
<td></td>
<td>b) Methylprednisolone PFI 500mg (as sodium succinate)</td>
<td></td>
</tr>
<tr>
<td>8.1.4</td>
<td>a) Mycophenolic acid tablet 180mg (as mycophenolate sodium) e/c</td>
<td>Kidney transplantation; better side-effect profile than mofetil salt</td>
</tr>
<tr>
<td></td>
<td>b) Mycophenolic acid tablet 360mg (as mycophenolate sodium) e/c</td>
<td></td>
</tr>
<tr>
<td>8.1.5</td>
<td>Prednisolone tablet 5mg</td>
<td>Kidney transplantation</td>
</tr>
<tr>
<td>8.1.6</td>
<td>a) Tacrolimus concentrate for IV infusion 5mg/1mL amp</td>
<td>Kidney transplantation (induction phase; when vomiting, and oral route not possible in postoperatively)</td>
</tr>
<tr>
<td>#</td>
<td>Item Added</td>
<td>Indication/Notes</td>
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<tr>
<td>8.1.6</td>
<td>b) Tacrolimus capsule 500 micrograms</td>
<td>Kidney transplantation; various strengths required for titrated dose reduction</td>
</tr>
<tr>
<td></td>
<td>c) Tacrolimus capsule 1mg</td>
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</tr>
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<td></td>
<td>d) Tacrolimus capsule 5mg</td>
<td></td>
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<td>8.2.1</td>
<td>Alendronic acid tablet 70mg</td>
<td>See list entry for indications</td>
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<td>8.2.6</td>
<td>a) Capecitabine tablet 150mg</td>
<td>See list entry for indications</td>
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<td>b) Capecitabine tablet 500mg</td>
<td></td>
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<td>8.2.7</td>
<td>b) Carboplatin injection 10mg/mL (45mL vial)</td>
<td>See list entry for indications</td>
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<td>8.2.10</td>
<td>a) Cyclophosphamide PFI 200mg vial</td>
<td>See list entry for indications</td>
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<td>8.2.12</td>
<td>Dacarbazine PFI 200mg vial</td>
<td>See list entry for indication; replaces 100mg vial</td>
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<td>a) Docetaxel injection 10mg/mL (2mL vial)</td>
<td>See list entry for indications</td>
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<td></td>
<td>b) Docetaxel injection 10mg/mL (8mL vial)</td>
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<td>8.2.16</td>
<td>a) Doxorubicin PFI 10mg vial</td>
<td>See list entry for indications</td>
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<td>a) Filgrastim injection 120 micrograms/0.2ml prefilled syringe</td>
<td>See list entry for indications</td>
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<td></td>
<td>b) Filgrastim injection 300 micrograms/0.5ml prefilled syringe</td>
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<td>8.2.20</td>
<td>a) Gemcitabine PFI 200mg vial</td>
<td>See list entry for indications</td>
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<td>b) Gemcitabine PFI 1g vial</td>
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<td>8.2.21</td>
<td>a) Hydroxyurea capsule 250mg</td>
<td>See list entry for indication</td>
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<tr>
<td>8.2.22</td>
<td>a) Ifosfamide PFI 1g vial</td>
<td>See list entry for indications</td>
</tr>
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<td></td>
<td>b) Ifosfamide PFI 2g vial</td>
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<td>8.2.23</td>
<td>Imatinib tablet 400mg</td>
<td>See list entry for indications</td>
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<td>8.2.24</td>
<td>a) Irinotecan injection 20mg/mL (2mL vial)</td>
<td>See list entry for indication</td>
</tr>
<tr>
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<td>b) Irinotecan injection 20mg/mL (5mL vial)</td>
<td></td>
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<tr>
<td>8.2.26</td>
<td>Melphalan tablet 2mg</td>
<td>See list entry for indications</td>
</tr>
<tr>
<td>8.2.27</td>
<td>Mesna injection 100mg/mL (2mL amp)</td>
<td>See list entry for indications</td>
</tr>
<tr>
<td>8.2.29</td>
<td>a) Oxaliplatin inj. 2mg/mL (25mL vial)</td>
<td>See list entry for indications</td>
</tr>
<tr>
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<td>b) Oxaliplatin inj. 2mg/mL (50mL vial)</td>
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<td>8.2.30</td>
<td>a) Paclitaxel injection 6mg/mL (5mL vial)</td>
<td>See list entry for indications</td>
</tr>
<tr>
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<td>b) Paclitaxel injection 6mg/mL (16.7mL vial)</td>
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<tr>
<td>8.2.32</td>
<td>a) Rituximab injection 10mg/mL</td>
<td>See list entry for indications</td>
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<td>#</td>
<td>Item Added</td>
<td>Indication/Notes</td>
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<tr>
<td>8.2.32</td>
<td>b) Rituximab injection 10mg/mL (50mL vial)</td>
<td>See list entry for indications</td>
</tr>
<tr>
<td>8.2.33</td>
<td>Thalidomide capsule 100mg</td>
<td>See list entry for indications</td>
</tr>
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<td>8.2.34</td>
<td>a) Trastuzumab PFI 150mg vial</td>
<td>See list entry for indications</td>
</tr>
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<td>b) Trastuzumab PFI 440mg vial</td>
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<td>8.2.35</td>
<td>Vinblastine sulphate injection 1mg/mL (10mL vial)</td>
<td>See list entry for indications</td>
</tr>
<tr>
<td></td>
<td>a) Vinorelbine injection 10mg/mL (1mL vial)</td>
<td>See list entry for indications</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a) Vinorelbine injection 10mg/mL (5mL vial)</td>
</tr>
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<td>8.2.37</td>
<td>Zoledronic acid injection 800 micrograms/mL (5mL vial)</td>
<td>See list entry for indications</td>
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<tr>
<td>8.3.1</td>
<td>Anastrozole tablet 1mg</td>
<td>Post-menopausal breast cancer</td>
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<tr>
<td>8.3.2</td>
<td>Bicalutamide tablet 50mg</td>
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<td>8.3.3</td>
<td>b) Dexamethasone tablet 500 micrograms</td>
<td>See list entry for indication</td>
</tr>
<tr>
<td>8.3.4</td>
<td>Diethylstilboestrol (DES) tablet 5mg</td>
<td>See list entry for indication</td>
</tr>
<tr>
<td>8.3.5</td>
<td>a) Goserelin implant 3.6mg</td>
<td>See list entry for indications</td>
</tr>
<tr>
<td></td>
<td>b) Goserelin implant 10.8mg</td>
<td></td>
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<td>8.3.7</td>
<td>Methylprednisolone PFI 500mg</td>
<td>See list entry for indications</td>
</tr>
<tr>
<td>8.3.8</td>
<td>a) Prednisolone oral liquid 15mg/5mL [c]</td>
<td>See list entry for indications</td>
</tr>
<tr>
<td>8.3.9</td>
<td>Tamoxifen tablet 20mg (as citrate)</td>
<td>See list entry for indications</td>
</tr>
<tr>
<td>8.4.1</td>
<td>Finasteride tablet 5mg</td>
<td>Benign prostatic hyperplasia</td>
</tr>
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<td>8.4.2</td>
<td>Tamsulosin tablet 400 micrograms</td>
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<tr>
<td></td>
<td>a) Levodopa + carbidopa tablet 100mg + 10mg</td>
<td>Parkinsonism (1st line)</td>
</tr>
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<td>b) Levodopa + carbidopa tablet 250mg + 25mg</td>
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<td>9.2</td>
<td>a) Pramipexole tablet 180 micrograms</td>
<td>Refractory parkinsonism</td>
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<td>b) Pramipexole tablet 700 micrograms</td>
<td></td>
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<td>10.1.1</td>
<td>Ferrous salt oral liquid (drops) 25mg/mL elemental iron</td>
<td>Required paediatric presentation</td>
</tr>
<tr>
<td>10.1.3</td>
<td>a) Folic acid tablet 400 micrograms</td>
<td>Periconceptual prevention of first occurrence of neural tube defects</td>
</tr>
<tr>
<td>10.2.2</td>
<td>a) Phytomenadione (Vit K1) injection 1mg/mL amp [c]</td>
<td>Prevention of neonatal vitamin K deficiency bleeding (replaces 10mg/0.2mL amp)</td>
</tr>
<tr>
<td></td>
<td>b) Phytomenadione (Vit K1) injection 10mg/mL (5mL amp)</td>
<td>Warfarin-associated bleeding</td>
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<tr>
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<td>Item Added</td>
<td>Indication/Notes</td>
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<tr>
<td>10.2.4</td>
<td>Tranexamic acid injection 100mg/mL (5mL amp)</td>
<td>Prevention/treatment of bleeding associated with excessive fibrinolysis</td>
</tr>
<tr>
<td>10.2.6</td>
<td>a) Enoxaparin injection (prefilled syringe) 40mg/0.4mL</td>
<td>Safe, effective and more convenient alternative to heparin; no requirement for routine monitoring</td>
</tr>
<tr>
<td></td>
<td>b) Enoxaparin injection (prefilled syringe) 80mg/0.8mL</td>
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<tr>
<td>10.2.9</td>
<td>a) Warfarin sodium tablet 0.5mg</td>
<td>Required low dose presentation, especially for paediatric use</td>
</tr>
<tr>
<td>10.3.1</td>
<td>a) Deferasirox tablet 100mg</td>
<td>Iron overload</td>
</tr>
<tr>
<td></td>
<td>b) Deferasirox tablet 400mg</td>
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<tr>
<td>10.3.2</td>
<td>Deferoxamine mesilate PFI 500mg vial</td>
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<td>10.3.3</td>
<td>a) Hydroxycarbamide (hydroxyurea) capsule 250mg</td>
<td>Sickle cell disease</td>
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<td></td>
<td>b) Hydroxycarbamide capsule 500mg</td>
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<tr>
<td>11.1.1</td>
<td>Plasma, fresh frozen</td>
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<td>11.1.2</td>
<td>Platelets</td>
<td></td>
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<td>11.1.3</td>
<td>Red blood cells</td>
<td>WHO Model List</td>
</tr>
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<td>11.1.4</td>
<td>Whole blood</td>
<td></td>
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<td>a) Normal immunoglobulin injection IV 5% protein solution (100mL vial)</td>
<td>Primary immune deficiency &amp; Kawasaki disease</td>
</tr>
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<td>b) Normal immunoglobulin injection IV 10% protein solution (100mL vial)</td>
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<tr>
<td>11.3.1</td>
<td>Polygeline IV infusion 3.5% (500mL)</td>
<td>Plasma volume expansion; replaces dextran 70%</td>
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<tr>
<td>12.1.1</td>
<td>a) Carvedilol tablet 6.25mg</td>
<td>Replace atenolol tablet 50mg; improved benefit/risk profile</td>
</tr>
<tr>
<td></td>
<td>b) Carvedilol tablet 12.5mg</td>
<td></td>
</tr>
<tr>
<td>12.1.3</td>
<td>Isosorbide dinitrate tablet 20mg</td>
<td>Useful longer acting vasodilator</td>
</tr>
<tr>
<td>12.2.1</td>
<td>a) Carvedilol tablet 6.25mg</td>
<td>Replace atenolol tablet 50mg; improved benefit/risk profile</td>
</tr>
<tr>
<td></td>
<td>b) Carvedilol tablet 12.5mg</td>
<td></td>
</tr>
<tr>
<td>12.2.4</td>
<td>b) Verapamil tablet 80mg (scored)</td>
<td>Replaces 40mg for better dose flexibility</td>
</tr>
<tr>
<td>12.2.6</td>
<td>Epinephrine injection 100 micrograms/mL (10mL amp)</td>
<td>Cardiac arrest</td>
</tr>
<tr>
<td>12.3.2</td>
<td>a) Carvedilol tablet 6.25mg</td>
<td>Replaces atenolol tablet 50mg; improved benefit/risk profile</td>
</tr>
<tr>
<td></td>
<td>b) Carvedilol tablet 12.5mg</td>
<td></td>
</tr>
<tr>
<td>12.3.6</td>
<td>Losartan tablet 50mg</td>
<td>1st line antihypertensive with improved adverse effect profile and prolonged action</td>
</tr>
<tr>
<td>12.4.1</td>
<td>a) Carvedilol tablet 6.25mg</td>
<td>Useful additions as per WHO Model List</td>
</tr>
<tr>
<td></td>
<td>b) Carvedilol tablet 12.5mg</td>
<td></td>
</tr>
<tr>
<td>12.4.3</td>
<td>b) Furosemide oral liquid 20mg/5mL [c]</td>
<td>Useful paediatric presentation</td>
</tr>
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<td>Item Added</td>
<td>Indication/Notes</td>
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<tr>
<td>12.4.5</td>
<td>Spironolactone tablets 25mg (scored)</td>
<td>Useful addition as per WHO ML</td>
</tr>
<tr>
<td>12.5.1.2</td>
<td>Clopidogrel tablet 75mg</td>
<td>Useful addition as per WHO ML</td>
</tr>
<tr>
<td>12.6.1</td>
<td>Atorvastatin tablet 20mg (scored)</td>
<td>Useful addition as per WHO ML</td>
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<tr>
<td>13.1.2</td>
<td>Terbinafine HCl cream 1%</td>
<td>Refractory fungal infections</td>
</tr>
<tr>
<td>13.2.1</td>
<td>Aciclovir cream 5% (5g)</td>
<td>Herpes infections</td>
</tr>
<tr>
<td>13.2.4</td>
<td>Mupirocin ointment 2% (15g)</td>
<td>Prophylaxis during dialysis procedures</td>
</tr>
<tr>
<td>13.3.2</td>
<td>Clobetasone butyrate ointment 0.05%</td>
<td>Very potent topical steroid</td>
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<tr>
<td>13.3.3</td>
<td>Crotamiton cream 10%</td>
<td>Pruritis (especially after scabies)</td>
</tr>
<tr>
<td>13.3.4</td>
<td>Desonide gel 0.05%</td>
<td>Mild topical steroid</td>
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<tr>
<td>13.3.6</td>
<td>Mometasone furoate ointment 0.1%</td>
<td>Potent topical steroid</td>
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<tr>
<td>13.3.7</td>
<td>Tacrolimus ointment 0.03%</td>
<td>Moderate-severe atopic eczema, especially if refractory</td>
</tr>
<tr>
<td>13.5.1</td>
<td>Benzoyl peroxide gel 5%</td>
<td>Acne vulgaris</td>
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<tr>
<td>13.5.2</td>
<td>Coal tar + salicylic acid ointment 2% + 2%</td>
<td>Psoriasis</td>
</tr>
<tr>
<td>13.6.2</td>
<td>Crotamiton cream 10%</td>
<td>Scabies and related pruritis</td>
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<tr>
<td>13.6.3</td>
<td>Ivermectin tablet 6mg (scored)</td>
<td>Refractory scabies</td>
</tr>
<tr>
<td>13.7.2</td>
<td>White soft paraffin 100%</td>
<td>Jiggers</td>
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<tr>
<td>13.8.1</td>
<td>Sunscreening cream or lotion UVB SPF 30+</td>
<td>Albinism &amp; photodermatoses</td>
</tr>
<tr>
<td>14.1.1</td>
<td>Fluorescein test strip 0.6mg</td>
<td>Replaces fluorescein eye drops 1%</td>
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<tr>
<td>14.2.4</td>
<td>Iopromide injection (solution for IV infusion) 150-370mg iodine/mL</td>
<td>Required radiocontrast media</td>
</tr>
<tr>
<td>14.3.1</td>
<td>Gadobutrol IV injection (solution) 1 mmol/mL</td>
<td></td>
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<tr>
<td>14.3.2</td>
<td>Gadodiaimide IV injection (solution) 0.5 mmol/mL</td>
<td>New section: MRI contrast media</td>
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<tr>
<td>14.3.3</td>
<td>Gadopentate dimeglumine IV injection (solution) 0.5 mmol/mL</td>
<td></td>
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<td>15.1.1</td>
<td>b) Chlorhexidine gel 4% (as digluconate 7.1%) [c]</td>
<td>Umbilical cord care</td>
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<tr>
<td>15.2.1</td>
<td>Alcohol-based hand rub solution, isopropyl alcohol 75% (500mL dispenser)</td>
<td>Hand hygiene; key element of infection prevention &amp; control</td>
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<tr>
<td>16.2</td>
<td>b) Furosemide oral liquid [c] 20mg/5mL</td>
<td>For paediatric use</td>
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<tr>
<td>16.5</td>
<td>Spironolactone tablet 25mg</td>
<td>Potassium-sparing diuretic</td>
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<tr>
<td>17.1.1</td>
<td>Lansoprazole dispersible tablet 15mg</td>
<td>For paediatric use</td>
</tr>
<tr>
<td>17.1.2</td>
<td>b) Omeprazole PFI 40mg vial</td>
<td>Severe peptic ulcer; and peptic ulcer when oral route is not possible</td>
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<tr>
<td>17.2.2</td>
<td>a) Domperidone oral liquid 5mg/5mL</td>
<td>Alternative for young children who cannot tolerate metoclopramide or who require an oral liquid antiemetic</td>
</tr>
<tr>
<td></td>
<td>b) Domperidone tablet 10mg</td>
<td>Alternative for adult patients who cannot tolerate metoclopramide</td>
</tr>
<tr>
<td>17.2.4</td>
<td>a) Ondansetron injection 2mg/mL base as HCl (2mL amp)</td>
<td>Recommended 1&lt;sup&gt;st&lt;/sup&gt; line treatment for post-operative nausea &amp; vomiting (PONV)</td>
</tr>
<tr>
<td></td>
<td>b) Ondansetron tablet (orally disintegrating) 4mg (base equivalent)</td>
<td></td>
</tr>
<tr>
<td>17.2.5</td>
<td>Dexamethasone tablet 500 micrograms</td>
<td>Continuation oral steroid after initial parenteral therapy</td>
</tr>
<tr>
<td>17.3.1</td>
<td>Mesalazine tablet 400mg (e/c)</td>
<td>Supersedes sulfasalazine (deleted); improved side-effect profile</td>
</tr>
<tr>
<td>17.3.2</td>
<td>Prednisolone tablet 5mg</td>
<td>Chronic inflammatory bowel disease</td>
</tr>
<tr>
<td>17.4.1</td>
<td>b) Bisacodyl suppository 10mg</td>
<td>Alternative presentation when oral route not appropriate</td>
</tr>
<tr>
<td>17.5.2</td>
<td>ORS (4 sachets) + zinc sulphate tablets 20mg dispersible (10) co pack</td>
<td>Required for updated treatment protocols</td>
</tr>
<tr>
<td>17.5.3</td>
<td>Rehydration solution for malnutrition (ReSoMal) PFOL (sachet for 1L)</td>
<td>Required for updated treatment protocols</td>
</tr>
<tr>
<td>18.2.1</td>
<td>Testosterone gel 1%</td>
<td>Required for treatment of disorders of sexual development</td>
</tr>
<tr>
<td>18.3.1.2</td>
<td>Levonorgestrel tablet 30 micrograms</td>
<td>Required for current family planning protocols</td>
</tr>
<tr>
<td>18.3.2.1</td>
<td>Estradiol cypionate + medroxyprogesterone acetate injection 5mg + 25mg</td>
<td>Required for current family planning protocols</td>
</tr>
<tr>
<td>18.3.2.2</td>
<td>b) Medroxyprogesterone acetate (DMPA) depot injection (SC) 104mg/0.65mL (prefilled syringe)</td>
<td>Required for current family planning protocols</td>
</tr>
<tr>
<td>18.3.3.2</td>
<td>Levonorgestrel- releasing Intrauterine system (LNG-IUS), reservoir with 52mg</td>
<td>Required for current FP protocols</td>
</tr>
<tr>
<td>18.3.6.1</td>
<td>Progesterone-releasing vaginal ring 2.074g</td>
<td>Required for current FP protocols</td>
</tr>
<tr>
<td>18.4.1</td>
<td>Conjugated oestrogens tablets 0.3mg</td>
<td>Required for treatment of delayed puberty</td>
</tr>
<tr>
<td>18.5.2</td>
<td>Gliclazide tablet 40mg</td>
<td>For patients &gt;60 years &amp; as 2&lt;sup&gt;nd&lt;/sup&gt; line in others if glibenclamide not suitable</td>
</tr>
<tr>
<td>18.5.5</td>
<td>Insulin, rapid acting injection 100 IU/mL (10mL vial) (lispro, aspart or glulisine)</td>
<td>For restricted paediatric use, where a particularly rapid effect is required</td>
</tr>
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<td>#</td>
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<tr>
<td>18.7.1</td>
<td>Medroxyprogesterone acetate tablet 5mg</td>
<td>For menstrual conditions and endometriosis</td>
</tr>
<tr>
<td>18.8.3</td>
<td>Lugol's iodine oral liquid ~130mg total iodine/mL [c]</td>
<td>For pre-operative use in hyperthyroidism</td>
</tr>
<tr>
<td>18.8.4</td>
<td>Propylthiouracil tablet 50mg</td>
<td>For 2^nd^ line use if carbimazole not tolerated/recommended</td>
</tr>
<tr>
<td>19-3.3</td>
<td>HPV vaccine injection (suspension) 1mL vial (2 doses)</td>
<td>Required for current vaccination protocols</td>
</tr>
<tr>
<td>19-3.6</td>
<td>Polio vaccine (IPV) injection 5mL vial (10 doses)</td>
<td>Required for current vaccination protocols</td>
</tr>
<tr>
<td>19-3.8</td>
<td>Rotavirus vaccine (oral suspension) 1.5mL (single dose)</td>
<td>Required for current vaccination protocols</td>
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<tr>
<td>19-3.11</td>
<td>Cholera vaccine (oral suspension) 1.5mL vial (single dose)</td>
<td>For use in epidemics</td>
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<tr>
<td>19-3.17</td>
<td>Varicella vaccine (PFI + diluent) 0.5mL vial (single dose)</td>
<td>For use in high-risk groups</td>
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<tr>
<td>19.3.18</td>
<td>Pneumococcal vaccine (23-valent adsorbed conjugate) injection (suspension) 0.5mL vial (single dose)</td>
<td>For specialist use in high-risk groups</td>
</tr>
<tr>
<td>20.1</td>
<td>Atracurium besilate injection 10mg/mL</td>
<td>Neuromuscular blocker (short-intermediate duration)</td>
</tr>
<tr>
<td>20.2</td>
<td>Cisatracurium injection 2mg/mL (10mL vial)</td>
<td>Neuromuscular blocker (intermediate duration; replaces vecuronium)</td>
</tr>
<tr>
<td>20.3</td>
<td>Glycopyrronium bromide + neostigmine metilsulfate injection 500 micrograms + 2.5mg/1mL amp</td>
<td>Reversal of non-depolarising neuromuscular blockade (especially young and elderly patients)</td>
</tr>
<tr>
<td>20.5</td>
<td>Pancuronium bromide injection 2mg/mL</td>
<td>Neuromuscular blocker (required for its long duration of effect)</td>
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<tr>
<td>21.1.3</td>
<td>Aciclovir eye ointment 3%</td>
<td>Ophthalmic herpes</td>
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<tr>
<td>21.1.4</td>
<td>Azithromycin dihydrate eye drops 1.5%</td>
<td>Trachomatous conjunctivitis</td>
</tr>
<tr>
<td>21.1.5</td>
<td>Ciprofloxacin eye drops 0.3% (as HCl)</td>
<td>Corneal ulcers</td>
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<td>21.1.6</td>
<td>Econazole eye drops 1%</td>
<td>Fungal keratitis</td>
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<tr>
<td>21.2.1</td>
<td>b) Prednisolone tablet 5mg</td>
<td>Ophthalmic malignancies</td>
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<tr>
<td>21.2.2</td>
<td>Prednisolone eye drops 1% (acetate)</td>
<td>Deeper ocular inflammation</td>
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<tr>
<td>21.2.3</td>
<td>Ketorolac trometamol eye drops 0.5%</td>
<td>Ocular inflammation where steroids are contraindicated</td>
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<td>21.2.4</td>
<td>Methylprednisolone PFI 1g vial (as sod. succinate)</td>
<td>Optic neuritis</td>
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<tr>
<td>21.2.5</td>
<td>Triamcinolone acetonide injection (aq. suspension) 40mg/1mL amp</td>
<td>Severe allergic conjunctivitis, diabetic retinopathy, intermediate uveitis, post-op in</td>
</tr>
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<tr>
<td>21.4.3</td>
<td>Dorzolamide eye drops 2% (as HCl)</td>
<td>Open-angle glaucoma, in patients resistant to beta-blockers</td>
</tr>
<tr>
<td>21.4.4</td>
<td>Latanoprost eye drops 0.005%</td>
<td>Raised intra-ocular pressure in open-angle glaucoma; ocular hypertension</td>
</tr>
<tr>
<td>21.5.1</td>
<td>Atropine sulfate eye drops 0.5%</td>
<td>Replaces 1% as preferred strength</td>
</tr>
<tr>
<td>21.5.2</td>
<td>Tropicamide eye drops 0.5%</td>
<td>Short-term dilation</td>
</tr>
<tr>
<td>21.5.3</td>
<td>Epinephrine eye drops 2% (as HCl)</td>
<td>Rapid dilation during eye surgery in non-hypertensive patients</td>
</tr>
<tr>
<td>21.6.1</td>
<td>Sodium cromoglicate eye drops 2%</td>
<td>Allergic conjunctivitis, vernal keratoconjunctivitis</td>
</tr>
<tr>
<td>21.7.1</td>
<td>Bevacizumab injection 25mg/mL (4mL vial)</td>
<td>Diabetic retinopathy</td>
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<td>23.2.2</td>
<td>Haemodialysis solutions, parenteral (of appropriate composition)</td>
<td>Haemodialysis</td>
</tr>
<tr>
<td>24.1.1</td>
<td>b) Chlorpromazine HCl tablet 50mg</td>
<td>Especially for geriatrics when smaller doses may be required</td>
</tr>
<tr>
<td>24.1.2</td>
<td>Flupentixol decanoate injection (oily, depot) 20mg/mL (2mL amp)</td>
<td>Combined antipsychotic + antidepressant effect</td>
</tr>
<tr>
<td>24.1.4</td>
<td>Haloperidol oral liquid 2mg/mL</td>
<td>Paediatric presentation and for clandestine administration(^2) to uncooperative patients</td>
</tr>
<tr>
<td>24.1.5</td>
<td>Olanzapine PFI 10mg vial</td>
<td>2nd generation antipsychotic; much improved adverse effect profile; useful for patients refractory to, or intolerant of, older antipsychotics</td>
</tr>
<tr>
<td>24.1.6</td>
<td>Quetiapine tablet 200mg (scored)</td>
<td>Improved adverse effect profile compared with olanzapine and useful antidepressant effects</td>
</tr>
<tr>
<td>24.1.7</td>
<td>a) Zuclopenthixol acetate injection (oily) 50mg/1mL (2mL amp)</td>
<td>For calming agitated/aggressive patients</td>
</tr>
<tr>
<td></td>
<td>b) Zuclopenthixol acetate injection (depot, oily) 200mg/1mL amp [c]</td>
<td></td>
</tr>
<tr>
<td>24.1.7</td>
<td>Chlorpromazine HCl injection 25mg/mL (2mL amp) [c]</td>
<td>Specialist list when used in children</td>
</tr>
<tr>
<td>24.1.8</td>
<td>a) Clozapine tablet (scored) 25mg</td>
<td>Useful (^2) line option for unresponsive patients</td>
</tr>
<tr>
<td></td>
<td>b) Clozapine tablet (scored) 100mg</td>
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</tr>
<tr>
<td>24.1.9</td>
<td>a) Haloperidol injection 5mg/1mL amp</td>
<td>Specialist list when used in children</td>
</tr>
<tr>
<td></td>
<td>b) Haloperidol tablet (scored) 5mg</td>
<td></td>
</tr>
<tr>
<td>24.1.10</td>
<td>Risperidone tablet 1mg</td>
<td>Useful (^2) line option (especially in</td>
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\(^2\) Only after obtaining written guardian consent
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<tr>
<td>24.2.1.3</td>
<td>Fluoxetine tablet (scored) 20mg [c]</td>
<td>persistently aggressive patients</td>
</tr>
<tr>
<td>24.2.1.4</td>
<td>Venlafaxine capsule 75mg</td>
<td>Complementary list when used in children</td>
</tr>
<tr>
<td>24.2.2.2</td>
<td>Lithium carbonate tablet 400mg (modified release)</td>
<td>Replaces tablet 300mg; improved adherence/management</td>
</tr>
<tr>
<td>24.2.2.3</td>
<td>a) Valproic acid (sodium valproate) tablet 200mg (enteric-coated)</td>
<td>Increased dosage flexibility</td>
</tr>
<tr>
<td>24.3.1</td>
<td>Bromazepam tablet 3mg (scored)</td>
<td>Anxiety with agitation (replaces diazepam)</td>
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<tr>
<td>24.4.1</td>
<td>Clomipramine HCl capsule 25mg</td>
<td>Obsessive-compulsive disorders</td>
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<td>24.5.1</td>
<td>Diazepam tablet 5mg</td>
<td>Alcohol dependency</td>
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<td>24.5.2</td>
<td>a) Nicotine chewing gum 2mg</td>
<td>Smoking cessation</td>
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<tr>
<td>24.5.3</td>
<td>a) B vitamins high potency injection IM</td>
<td>Alcohol dependence</td>
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<tr>
<td>24.5.4</td>
<td>a) Buprenorphine + naloxone tablet (sublingual) 2mg + 500 micrograms</td>
<td>Opioid dependence</td>
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<tr>
<td>24.5.6</td>
<td>Naltrexone tablet 50mg</td>
<td>Attention deficit hyperactivity disorder (ADHD)</td>
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<tr>
<td>24.6.1</td>
<td>Methylphenidate tablet 10mg</td>
<td>Attention deficit hyperactivity disorder (ADHD)</td>
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<td>25.1.5</td>
<td>Formoterol fumarate + budesonide dry powder inhaler 6 micrograms + 200</td>
<td>Refractory chronic asthma</td>
</tr>
<tr>
<td></td>
<td>micrograms/metered dose</td>
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<td>25.1.6</td>
<td>a) Ipratropium bromide inhalation (aerosol) 20 micrograms/metered dose</td>
<td>COPD and refractory paediatric asthma</td>
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<td>b) Ipratropium bromide nebuliser solution 250 micrograms/1mL unit dose vial</td>
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<td>25.1.7</td>
<td>a) Montelukast (as sod. salt) granules 4mg sachet</td>
<td>Stepped management of asthma</td>
</tr>
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<td>b) Montelukast (as sod. salt) tablet 10mg</td>
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<tr>
<td>26.1.2</td>
<td>ORS + zinc sulphate co-pack 500mL sachets (4) + zinc sulph tab 20mg (10)</td>
<td>Dehydration in children</td>
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<tr>
<td>26.1.3</td>
<td>Rehydration solution for malnutrition (WHO formula - ReSoMal) sachet</td>
<td>Dehydration in patients with malnutrition</td>
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<tr>
<td>26.2.2</td>
<td>b) Potassium chloride injectable</td>
<td>Severe hypokalaemia</td>
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<tr>
<td>26.2.6</td>
<td>Sodium chloride injectable solution 3% (hypertonic) (10mL amp) [c]</td>
<td>Bronchiolitis in children; hyponatrenia in renal conditions</td>
</tr>
<tr>
<td>27.1</td>
<td>Calcium carbonate tablet (chewable) 1.25g</td>
<td>Calcium deficiency, eg. in chronic renal disease &amp; rickets</td>
</tr>
<tr>
<td>27.3</td>
<td>Cholecalciferol (Vit D₃) oral liquid (drops) 400 IU/mL [c]</td>
<td>Deficiency states</td>
</tr>
<tr>
<td>27.4</td>
<td>Ergocalciferol (Vit D₂) tablet 1.25mg (50,000 IU)</td>
<td>Deficiency states</td>
</tr>
<tr>
<td>27.5</td>
<td>Pyridoxine HCl (Vit B₆) tablet 50mg</td>
<td>Replaces 25mg (was in Complementary List)</td>
</tr>
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<td>27.8</td>
<td>Cholecalciferol (Vit D₃) injection IM (oily) 300,000 IU/1mL amp</td>
<td>Severe deficiency states</td>
</tr>
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<td>28.1.2</td>
<td>Hydrogen peroxide solution (ear drops) 5%</td>
<td>Wax softening and removal</td>
</tr>
<tr>
<td>28.1.3</td>
<td>Ciprofloxacin HCl + betamethasone sodium solution (ear drops) 0.3% + 0.1%</td>
<td>Infected otitis externa with inflammation and eczema</td>
</tr>
<tr>
<td>28.1.4</td>
<td>Clotrimazole solution (ear drops) 1%</td>
<td>Otitis externa with fungal infection</td>
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<tr>
<td>28.2.1</td>
<td>Liquid paraffin nasal drops 100%</td>
<td>Nasal canal dryness (eg. rhinitis sicca)</td>
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<tr>
<td>28.2.2</td>
<td>Sodium chloride nasal drops 0.9%</td>
<td>Nasal congestion</td>
</tr>
<tr>
<td>28.2.3</td>
<td>Budesonide nasal spray 100 micrograms/metered dose</td>
<td>Allergic &amp; vasomotor rhinitis</td>
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<td>29.2.1</td>
<td>Dexamethasone injection 4mg/mL (as sodium phosphate)</td>
<td>In new Section 29.2; for enhancing neonatal lung maturity</td>
</tr>
<tr>
<td>30.1.1</td>
<td>Allopurinol tablet 300mg (scored)</td>
<td>Replaces tablet 100mg</td>
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<tr>
<td>30.2.3</td>
<td>Leflunomide tablet 20mg</td>
<td>For use when methotrexate and sulfasalazine cannot be used</td>
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<tr>
<td>30.3.1</td>
<td>Aspirin tablet 300mg (scored)</td>
<td>In new Section 30.3 Juvenile joint disease</td>
</tr>
<tr>
<td>31.3</td>
<td>Total parenteral nutrition (TPN) (amino acids + lipids + glucose + electrolytes) infusion (emulsion) (triple-chamber)</td>
<td>Required for providing TPN</td>
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<td>Ready to use therapeutic food (RUTF) oral paste standard formula (500 kcal sachet)</td>
<td>In new Section 32: Preparations For managing Severe Acute Malnutrition</td>
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<tr>
<td>32.2</td>
<td>F-75 therapeutic milk PFOL for approx.. 600mL (standard formula 102.5g sachet)</td>
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<tr>
<td>32.2</td>
<td>F-100 therapeutic milk PFOL for approx.. 600mL (standard formula 114g sachet)</td>
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## Deletions

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<tr>
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<td>1.2</td>
<td>Bupivacaine injection 0.25%</td>
<td>Not required, use 0.5% (dilute as required)</td>
</tr>
<tr>
<td></td>
<td>Lignocaine injection 1%</td>
<td>2% preferred (dilute if 1% required)</td>
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<td></td>
<td>Lignocaine HCl topical solution 4% (in spray bottle)</td>
<td>Replaced by lidocaine HCl topical solution 2% (spray bottle)</td>
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<tr>
<td></td>
<td>Lignocaine + adrenaline injection 1% + 1:80,000</td>
<td>Not required</td>
</tr>
<tr>
<td></td>
<td>Lignocaine dental cartridge 2%</td>
<td>Not required</td>
</tr>
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<td></td>
<td>Lignocaine topical solution 10% spray</td>
<td>Not required (use 2%)</td>
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<td>1.3</td>
<td>Diazepam injection 5mg/mL</td>
<td>Replaced by preferred midazolam preparations (faster onset and recovery)</td>
</tr>
<tr>
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<td>Diazepam tablet 5mg</td>
<td>Efficacy, obsolete (better alternatives available, eg. midazolam)</td>
</tr>
<tr>
<td></td>
<td>Promethazine oral liquid 5mg/5mL</td>
<td>Not required (use atropine)</td>
</tr>
<tr>
<td></td>
<td>Hyoscine hydrobromide injection 400 micrograms/mL</td>
<td></td>
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<tr>
<td>2.1</td>
<td>Diclofenac injection 25mg/mL</td>
<td>Not recommended, increased risk of cardiovascular adverse effects (use ibuprofen)</td>
</tr>
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<td>Diclofenac suppository 100mg</td>
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</tr>
<tr>
<td></td>
<td>Paracetamol suppository 60mg</td>
<td>Not required (use 125mg)</td>
</tr>
<tr>
<td>2.2</td>
<td>Morphine oral liquid 10mg/5mL</td>
<td>Not required (use 1mg/mL or 10mg/mL)</td>
</tr>
<tr>
<td></td>
<td>Morphine tablet 60mg (prolonged-release)</td>
<td>Not required (use 30mg)</td>
</tr>
<tr>
<td>2.3</td>
<td>Allopurinol tablet 100mg</td>
<td>Replaced by tablet 300mg (scored) in new section 30</td>
</tr>
<tr>
<td></td>
<td>Cyclizine injection 50mg/mL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cyclizine 50mg</td>
<td>Not used/required (alternatives available)</td>
</tr>
<tr>
<td></td>
<td>Docusate sodium capsule 100mg</td>
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<td></td>
<td>Docusate sodium oral liquid 50mg/5mL</td>
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<tr>
<td>3</td>
<td>Chlorphenamine inj 10mg/mL</td>
<td>Replaced by cetirizine (better adverse effect profile)</td>
</tr>
<tr>
<td></td>
<td>Chlorphenamine oral liquid 2mg/5mL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prednisolone tablet 25mg</td>
<td>Not required for this indication</td>
</tr>
<tr>
<td></td>
<td>Aminophylline injection 25mg/mL</td>
<td>Not recommended (safer &amp; more effective alternatives available)</td>
</tr>
</tbody>
</table>

25 Note that deletion of a medicines is specific to a particular section/use and not necessarily the whole list (eg. chlorphenamine injection has been deleted from section 3 but added to section 1.3)
<table>
<thead>
<tr>
<th>Section</th>
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<th>Reason/Notes</th>
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<tbody>
<tr>
<td>5</td>
<td>Diazepam injection 5mg/mL</td>
<td>Replaced by lorazepam injection</td>
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<td></td>
<td>Ethosuximide oral liquid 250mg/5mL</td>
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<td>Ethosuximide tablet 250mg</td>
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<td>6.1.1</td>
<td>Niclosamide tablet, chewable 500mg</td>
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<td>6.1.2</td>
<td>Ivermectin tablet, scored 6mg</td>
<td>Not required</td>
</tr>
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<td>6.2.1</td>
<td>Amoxicillin PFOL 125mg/5mL</td>
<td>Replaced by tablet 250mg dispersible, scored (preferred presentation)</td>
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<tr>
<td></td>
<td>Amoxicillin + clavulanic acid PFOL 250mg + 62.5mg/5mL</td>
<td>Replaced by DT, scored 200mg + 28.5mg</td>
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<td></td>
<td>Amoxicillin + clavulanic acid tablet 625mg</td>
<td>Replaced by tablet 875mg + 125mg</td>
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<td></td>
<td>Ampicillin PFI 500mg</td>
<td>Minimal use, high levels of resistance</td>
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<tr>
<td></td>
<td>Benzathine penicillin PFI 1.44g (2.4MU) in 5mL vial</td>
<td>Replaced by 900mg (1.2MU) vial (preferred presentation)</td>
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<tr>
<td></td>
<td>Benzylpenicillin PFI 3g (5MU) vial</td>
<td>Not required (use 600mg 1MU vial)</td>
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<td></td>
<td>Cefuroxime injection 750mg vial</td>
<td>Not recommended, poorly tolerated, high cost (use amoxicillin + clavulanic acid)</td>
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<td></td>
<td>Cefuroxime tablet 250mg</td>
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<td>6.2.2</td>
<td>Chloramphenicol capsule 250mg</td>
<td>Not required for updated protocols</td>
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<tr>
<td></td>
<td>Chloramphenicol oral liquid 125mg/5mL</td>
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</tr>
<tr>
<td></td>
<td>Chloramphenicol injection PFI 1g</td>
<td></td>
</tr>
<tr>
<td>6.2.4</td>
<td>Erythromycin PFOL 125mg/5mL</td>
<td>Replaced by preferred azithromycin (better tolerated, simpler dose regime, improved cost benefit)</td>
</tr>
<tr>
<td></td>
<td>Erythromycin tablet 250mg</td>
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</tr>
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<td></td>
<td>Metronidazole tablet 400mg</td>
<td>Use 200mg (improved cost benefit)</td>
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<td>6.3</td>
<td>Isoniazid tablet (scored) 50mg</td>
<td>Replaced by oral liquid 50mg/5mL</td>
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<td>6.4.2.1</td>
<td>Ethambutol oral liquid 25mg/mL</td>
<td>Not required</td>
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<td></td>
<td>Ofloxacin tablet 200mg</td>
<td>Not required (use levofloxacin or moxifloxacin)</td>
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<tr>
<td></td>
<td>Streptomycin PFI 1g vial</td>
<td>Not required for updated TB regimes</td>
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<tr>
<td>6.3</td>
<td>Clotrimazole vaginal tablet 200mg</td>
<td>Replaced by 500mg (single dose, improved adherence)</td>
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<tr>
<td></td>
<td>Abacavir oral liquid 100mg/5mL</td>
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<tr>
<td></td>
<td>Didanosine PFOL 100mg packet</td>
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</tr>
<tr>
<td></td>
<td>Didanosine PFOL 167mg packet</td>
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<tr>
<td></td>
<td>Didanosine PFOL 250mg packet</td>
<td></td>
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<tr>
<td></td>
<td>Didanosine capsule 125mg (e/c, unbuffered)</td>
<td>Not required in updated treatment protocols</td>
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<tr>
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<td>Didanosine capsule 200mg (e/c, unbuffered)</td>
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<td>6.4.2.2</td>
<td>Efavirenz capsule 50mg</td>
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<td>6.4.2.3</td>
<td>Lopinavir + ritonavir capsule 133.3mg + 33.3mg</td>
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<tr>
<td>6.4.2.4</td>
<td>Efavirenz + emtricitabine + tenofovir tablet 600mg + 200mg + 300mg</td>
<td></td>
</tr>
<tr>
<td>6.5.3.1</td>
<td>Artemether oily injection 80mg/mL amp</td>
<td>Use artesunate as 1st line for severe malaria</td>
</tr>
<tr>
<td>6.5.3.1</td>
<td>Doxycycline tablet 100mg</td>
<td>No longer required for malaria treatment (use AL) but retained for prophylaxis</td>
</tr>
<tr>
<td>6.5.4</td>
<td>Dapsone tablet 100mg</td>
<td>Not used/required (use cotrimoxazole + sulfadoxine/pyrimethamine [SP])</td>
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<tr>
<td>6.5.4</td>
<td>Pyrimethamine tablet 25gm</td>
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<td>6.5.4</td>
<td>Sulphadiazine tablet 500mg</td>
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<td>Reason/Notes</td>
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<td>---------</td>
<td>---------------------------------------</td>
<td>-------------------------------------------------</td>
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<td>8.2</td>
<td>Cisplatin injection 1mg/mL, 10mL vial</td>
<td>Not required (use 50mL vial)</td>
</tr>
<tr>
<td></td>
<td>Dacarbazine PFI 100mg</td>
<td>Replaced by PFI 200mg vial (as citrate)</td>
</tr>
<tr>
<td>9.2</td>
<td>a) Etoposide capsule 100mg</td>
<td>Not used/required (use injection)</td>
</tr>
<tr>
<td></td>
<td>Vincristine PFI 1mg vial</td>
<td>Not used/required</td>
</tr>
<tr>
<td></td>
<td>Vincristine PFI 5mg vial</td>
<td>Not used/required</td>
</tr>
<tr>
<td>8.3</td>
<td>Methyprednisolone injection (aq. suspension) 40mg/1mL</td>
<td>Replaced by PFI 500mg vial (as sod.succinate)</td>
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<tr>
<td>9.2</td>
<td>Biperiden tablet 2mg (HCl)</td>
<td>Not used/required (benzhexol retained)</td>
</tr>
<tr>
<td>10.2</td>
<td>Phytomenadione (Vit K1) injection 10mg/mL in 0.2mL amp</td>
<td>Replaced by 1mg/1mL amp presentation</td>
</tr>
<tr>
<td>11.1</td>
<td>Dextran 70 injection solution 6%</td>
<td>Replaced by preferred polygeline IV infusion 3.5% 500mL pack</td>
</tr>
<tr>
<td>12.1</td>
<td>Atenolol tablet 50mg</td>
<td>Replaced by carvedilol tablet 6.25mg and 12.5mg (better benefit/risk profile)</td>
</tr>
<tr>
<td></td>
<td>Verapamil tablet 40mg</td>
<td>Not used/required</td>
</tr>
<tr>
<td>12.2</td>
<td>Atenolol tablet 50mg</td>
<td>Replaced by carvedilol tablet 6.25mg and 12.5mg (better benefit/risk profile)</td>
</tr>
<tr>
<td></td>
<td>Verapamil tablet 40mg</td>
<td>Replaced by 80mg (scored)</td>
</tr>
<tr>
<td>12.3</td>
<td>Atenolol tablet 50mg</td>
<td>Replaced by carvedilol tablet 6.25mg and 12.5mg (better benefit/risk profile)</td>
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<tr>
<td>12.5</td>
<td>Streptokinase PFI 750,000 IU vial</td>
<td>Not used, not cost-effective</td>
</tr>
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<td>13.3</td>
<td>Calamine lotion 15%</td>
<td>Obsolete preparation (use crotamiton cream or appropriate steroid cream)</td>
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<tr>
<td>13.5</td>
<td>Coal tar solution 5%</td>
<td>Not available/used</td>
</tr>
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<td></td>
<td>Dithranol ointment 1%</td>
<td>(use coal tar 2% + salicylic acid 2% ointment)</td>
</tr>
<tr>
<td></td>
<td>Salicylic acid solution 5%</td>
<td>Not available/required</td>
</tr>
<tr>
<td>14.1</td>
<td>Fluorescein eye drops 1%</td>
<td>Replaced by fluorescein test strips 0.6mg</td>
</tr>
<tr>
<td>16.4</td>
<td>Mannitol injectable solution 10%</td>
<td>Not required; use 20%</td>
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<tr>
<td>17.1</td>
<td>Magnesium trisilicate co tablet, chewable 370mg</td>
<td>No evidence of benefit compared with placebo (safe and effective alternative available - omeprazole)</td>
</tr>
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<td>17.2</td>
<td>Ranitidine injection 25mg/mL</td>
<td>Superseded by omeprazole</td>
</tr>
<tr>
<td></td>
<td>Ranitidine tablet 150mg</td>
<td>Superseded by omeprazole</td>
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<tr>
<td>17.3</td>
<td>Promethazine oral liquid 5mg/5mL</td>
<td>Not used/required (less effective than available alternatives)</td>
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<td>Sulfasalazine suppository 500mg</td>
<td>Not used/required</td>
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<tr>
<td>17.5</td>
<td>Sulfasalazine tablet 500mg</td>
<td>Superseded by mesalazine</td>
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<tr>
<td>18.1</td>
<td>Prednisolone tablets 5mg</td>
<td>Not used/required</td>
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<td>Section</td>
<td>Item Deleted</td>
<td>Reason/Notes</td>
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<td>---------</td>
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<td>--------------</td>
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<tr>
<td>18.3.1</td>
<td>Ethinylestradiol + norethisterone tablet 35 micrograms + 1mg</td>
<td>Use ethinylestradiol + levonorgestrel tablet 30 micrograms + 150 micrograms</td>
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<td>18.3.2</td>
<td>Norethisterone enantate oily solution 200mg/1mL ampoule</td>
<td>Not used in current family planning protocols</td>
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<tr>
<td>20</td>
<td>Vecuronium bromide PFI 10mg vial</td>
<td>Replaced by cisatracurium (better adverse effect profile)</td>
</tr>
<tr>
<td>21.4</td>
<td>Pilocarpine eye drops 2%</td>
<td>Rarely used (use dorzolamide eye drops)</td>
</tr>
<tr>
<td></td>
<td>Timolol eye drops 0.25%</td>
<td>Not useful/effective (use 0.5%)</td>
</tr>
<tr>
<td>21.5</td>
<td>Atropine sulfate eye drops 1%</td>
<td>Not preferred (use 0.5%)</td>
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<tr>
<td>24.2.2</td>
<td>Carbamazepine tablet 100mg</td>
<td>Not required (use 200mg scored)</td>
</tr>
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<td>Lithium carbonate tablet 300mg</td>
<td>Replaced by 400mg (modified release)</td>
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<td>24.3</td>
<td>Diazepam tablet 5mg</td>
<td>Replaced by bromazepam tablet 3mg (scored); more effective in managing somatic anxiety</td>
</tr>
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<td>24.5</td>
<td>Clonidine tablet 100 micrograms</td>
<td>Not being used</td>
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<td>25.1</td>
<td>Beclomethasone inhalation (aerosol) 50 micrograms/dose</td>
<td>Not required (use 100 micrograms/dose inhaler)</td>
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<td>Salbutamol oral liquid 2mg/5mL</td>
<td>Not recommended</td>
</tr>
<tr>
<td></td>
<td>Salbutamol tablet 4mg</td>
<td>Not recommended</td>
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<td>26.1</td>
<td>Potassium chloride powder for dilution to make 7.5% oral solution</td>
<td>Not used</td>
</tr>
<tr>
<td>26.2</td>
<td>Sodium hydrogen carbonate (bicarbonate) injectable solution 1.4% (isotonic)</td>
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<td></td>
<td>Ascorbic acid tablet 50mg</td>
<td>Not required</td>
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<tr>
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<td>Ergocalciferol oral drops 400 IU/0.6mL dose</td>
<td>Replaced by cholecalciferol oral liquid (drops) 400 IU/mL [c]</td>
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<td>27</td>
<td>Nicotinamide (Vit B3) tablet 50mg</td>
<td>Not required</td>
</tr>
<tr>
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<td>Cholecalciferol tablet 10 micrograms (400 IU)</td>
<td>Replaced by oral liquid (drops) 400 IU/mL [c]</td>
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<td>Pyridoxine HCl (Vit B6) tablet 10mg</td>
<td>Replaced by tablet 50mg (scored)</td>
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<td>28</td>
<td>Acetic acid solution (ear drops) 2% in alcohol</td>
<td>Not used/required</td>
</tr>
<tr>
<td></td>
<td>Polyvidone iodine mouthwash 1%</td>
<td>Not used/required (other strengths available)</td>
</tr>
<tr>
<td>29</td>
<td>Aminoacids infusion 3%</td>
<td>Not used/required (other strengths available)</td>
</tr>
<tr>
<td>#</td>
<td>Drug</td>
<td>Dose-form</td>
</tr>
<tr>
<td>----</td>
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<tr>
<td>1.</td>
<td><strong>ANAESTHETICS</strong></td>
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</tr>
<tr>
<td>1.1</td>
<td>General anaesthetics &amp; oxygen</td>
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<tr>
<td>1.1.1</td>
<td>Inhalational anaesthetics</td>
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<tr>
<td>1.1.1.1</td>
<td>Halothane</td>
<td>Inhalation (250mL)</td>
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<td>1.1.1.2</td>
<td>Isoflurane</td>
<td>Inhalation (250mL)</td>
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<tr>
<td>1.1.1.3</td>
<td>Medical air</td>
<td>Inhalation (medicinal gas)</td>
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<td>1.1.1.4</td>
<td>Nitrous oxide</td>
<td>Inhalation (medicinal gas)</td>
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<td>1.1.1.5</td>
<td>Oxygen</td>
<td>Inhalation (medicinal gas)</td>
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<td><strong>Injectables</strong></td>
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<td>1.1.2.1</td>
<td>Ketamine hydrochloride</td>
<td>Injection</td>
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<td>1.1.2.2</td>
<td>Propofol&lt;sup&gt;26&lt;/sup&gt;</td>
<td>Injection</td>
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<td>1.1.2.3</td>
<td>Thiopental sodium</td>
<td>PFI</td>
</tr>
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<td>1.2</td>
<td>Local anaesthetics&lt;sup&gt;27&lt;/sup&gt;</td>
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<td>1.2.1</td>
<td>Bupivacaine HCl</td>
<td>Injection</td>
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<td>1.2.2</td>
<td>Lidocaine HCl</td>
<td>Injection</td>
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<tr>
<td>1.2.3</td>
<td>Lidocaine HCl + epinephrine (adrenaline)</td>
<td>Dental cartridge</td>
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<td><strong>Specialist List</strong></td>
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<tr>
<td>1.2.4</td>
<td>Ephedrine HCl&lt;sup&gt;29&lt;/sup&gt;</td>
<td>Injection</td>
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<tr>
<td>1.3</td>
<td>Pre- and intra-operative medication and sedation for short-term procedures</td>
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<tr>
<td>1.3.1</td>
<td>Atropine sulphate</td>
<td>Injection</td>
</tr>
<tr>
<td>1.3.2</td>
<td>Chlorphenamine maleate&lt;sup&gt;30&lt;/sup&gt;</td>
<td>Injection</td>
</tr>
<tr>
<td>1.3.3</td>
<td>Midazolam</td>
<td>a) Injection (as HCl)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Oral liquid [c]&lt;sup&gt;31&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Tablet</td>
</tr>
</tbody>
</table>

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<sup>26</sup> Thiopental may be used as an alternative where propofol is not available  
<sup>27</sup> For spinal, epidural, caudal or IV regional anaesthesia, use **preservative-free** injections  
<sup>28</sup> Also referred to as ‘heavy spinal’; may also be available with glucose 7.5% (75mg/mL)  
<sup>29</sup> For specialist use in spinal anaesthesia during caesarean sections for prevention of hypotension  
<sup>30</sup> Use only for managing pre- and intra-operative allergic reactions  
<sup>31</sup> With graduated oral dispenser; 2.5mg/mL presentation may be available and used as an alternative
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
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<tr>
<td>1.3.4</td>
<td>Morphine</td>
<td>Injection</td>
<td>10mg/1mL amp (HCl or sulphate)</td>
<td>3</td>
</tr>
<tr>
<td>1.3.5</td>
<td>Fentanyl</td>
<td>Injection (as citrate)</td>
<td>50 micrograms/mL (2mL amp)</td>
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</tbody>
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### 2. Medicines for Pain and Palliative Care

#### 2.1 Non-opioids and non-steroidal anti-inflammatory medicines (NSAIMs)

- **Aspirin**
  - Tablet: 300mg, Level 2
- **Ibuprofen**
  - a) Oral liquid [c]: 100mg/5mL, Level 2
  - b) Tablet: 200mg, Level 2
- **Paracetamol**
  - a) Injection (for IV infusion): 10mg/mL (100mL vial), Level 4
  - b) Oral liquid [c]: 125mg/5mL, Level 1
  - c) Suppository [c]: 125mg, Level 2
  - d) Tablet (scored): 500mg, Level 1

#### 2.2 Opioids

- **Codeine phosphate**
  - Tablet: 30mg, Level 3
- **Morphine**
  - a) Injection: 10mg/1mL amp (HCl or sulphate), Level 4
  - Oral liquid (HCl or sulphate)
  - b) 1mg/mL, Level 4
  - c) 10mg/mL, Level 4
  - d) Tablet (m/r): 30mg (sulphate), Level 4

#### 2.3 Medicines for other common symptoms in palliative care

- **Amitriptyline**
  - Tablet: 25mg, Level 4
- **Bisacodyl**
  - a) Tablet: 5mg, Level 4
  - b) Suppository: 10mg, Level 4
- **Dexamethasone**
  - a) Injection: 4mg/1mL amp (as sod. phosphate), Level 4
  - b) Tablet: 2mg [c], Level 4
- **Diazepam**
  - a) Injection: 5mg/mL (2mL amp), Level 4
  - b) Oral liquid: 2mg/5mL, Level 4
  - c) Gel or rectal: 5mg/mL (0.5mL tube), Level 4

---

32 Restricted for intra-operative use only
33 Do not use for children <3 months old
34 Not for anti-inflammatory use (no proven benefit)
35 Use only for post-operative analgesia
36 Alternative strength: 120mg/5mL
37 Only use for adults
38 May also be prescribed by specially trained palliative care professionals
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3.4</td>
<td>Diazepam</td>
<td>d) Tablet (scored)</td>
<td>5mg</td>
<td>4</td>
</tr>
<tr>
<td>2.3.5</td>
<td>Gabapentin</td>
<td>Tablet</td>
<td>300mg</td>
<td>4</td>
</tr>
<tr>
<td>2.3.6</td>
<td>Haloperidol</td>
<td>a) Injection</td>
<td>5mg/1mL amp</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet</td>
<td>5mg</td>
<td>4</td>
</tr>
<tr>
<td>2.3.7</td>
<td>Hyoscine butylbromide</td>
<td>Injection</td>
<td>20mg/1mL amp</td>
<td>4</td>
</tr>
<tr>
<td>2.3.8</td>
<td>Hyoscine hydrobromide [c]</td>
<td>Injection</td>
<td>400 micrograms/1mL amp</td>
<td>4</td>
</tr>
<tr>
<td>2.3.9</td>
<td>Lactulose [c]</td>
<td>Oral liquid</td>
<td>3.1-3.7mg/5mL</td>
<td>4</td>
</tr>
<tr>
<td>2.3.10</td>
<td>Loperamide</td>
<td>Capsule</td>
<td>2mg</td>
<td>4</td>
</tr>
<tr>
<td>2.3.11</td>
<td>Metoclopramide</td>
<td>a) Injection</td>
<td>5mg/mL (2mL amp)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Oral liquid</td>
<td>5mg/5mL</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Tablet</td>
<td>10mg</td>
<td>4</td>
</tr>
<tr>
<td>2.3.12</td>
<td>Midazolam</td>
<td>Injection</td>
<td>a) 1mg/mL</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 5mg/mL</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Oral liquid</td>
<td>2mg/mL [c]</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) Tablet</td>
<td>7.5mg</td>
<td>4</td>
</tr>
<tr>
<td>2.3.13</td>
<td>Ondansetron [c]40</td>
<td>a) Injection</td>
<td>2mg/mL (2mL amp) (as HCl)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet</td>
<td>4mg (as HCl)</td>
<td>4</td>
</tr>
</tbody>
</table>

### 3. ANTIALLERGICS and MEDICINES used in ANAPHYLAXIS

| 3.1 | Cetirizine HCl               | a) Oral liquid                     | 5mg/5mL       | 2     |
|     |                               | b) Tablet                          | 10mg          | 2     |
| 3.2 | Dexamethasone                | Injection                          | 4mg/1mL amp (as disod. phosphate) | 4     |
| 3.3 | Epinephrine (adrenaline)     | Injection                          | 1mg/1mL amp41 (as HCl or hyd.tartrate) | 2     |
| 3.4 | Hydrocortisone               | PFI                                | 100mg vial (as sod. succinate) | 2     |
| 3.5 | Prednisolone                 | a) Oral liquid [c]                 | 15mg/5mL      | 4     |
|     |                               | b) Tablet                          | 5mg           | 4     |

### Specialist List

| 3.6 | Chlorphenamine maleate42     | Injection                          | 10mg/1mL amp  | 33    |

---

40 Use only in children >1 month old
41 Strength may also be expressed as 1 in 1,000 or 0.1%
42 Use only as premedication for prevention of hypersensitivity reactions to paclitaxel
## 4. ANTIDOTES and OTHER SUBSTANCES used in POISONINGS

### 4.1 Non-specific

4.1.1 Activated charcoal PFOL 50g 2

### 4.2 Specific

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2.1</td>
<td>Acetylcysteine</td>
<td>Injection</td>
<td>200mg/mL (10mL amp)</td>
<td>4</td>
</tr>
<tr>
<td>4.2.2</td>
<td>Atropine sulphate</td>
<td>Injection</td>
<td>1mg/mL amp</td>
<td>4</td>
</tr>
<tr>
<td>4.2.3</td>
<td>Deferasirox</td>
<td>Tablet</td>
<td>a) 100mg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 400mg</td>
<td>4</td>
</tr>
<tr>
<td>4.2.4</td>
<td>Flumazenil</td>
<td>Injection</td>
<td>100 micrograms/mL (5mL amp)</td>
<td>4</td>
</tr>
<tr>
<td>4.2.5</td>
<td>Naloxone hydrochloride</td>
<td>Injection</td>
<td>400 micrograms/1mL amp</td>
<td>4</td>
</tr>
<tr>
<td>4.2.6</td>
<td>Protamine sulphate</td>
<td>Injection</td>
<td>10mg/mL (5mL amp)</td>
<td>4</td>
</tr>
</tbody>
</table>

**Specialist List**

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2.7</td>
<td>Deferoxamine mesilate</td>
<td>PFI</td>
<td>500mg vial</td>
<td></td>
</tr>
<tr>
<td>4.2.8</td>
<td>Dimercaprol(^{43})</td>
<td>Injection (in oil)</td>
<td>50mg/mL (2mL amp)</td>
<td></td>
</tr>
<tr>
<td>4.2.9</td>
<td>Ethanol(^{44})</td>
<td>a) Injection</td>
<td>100% (10mL amp)(^{45})</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) Oral liquid(^{46})</td>
<td>95-96%</td>
</tr>
<tr>
<td>4.2.10</td>
<td>Fomepizole sulphate</td>
<td>Injection</td>
<td>5mg/mL (20mL amp)</td>
<td></td>
</tr>
<tr>
<td>4.2.11</td>
<td>Penicillamine(^{47})</td>
<td>Tablet</td>
<td>25mg</td>
<td></td>
</tr>
<tr>
<td>4.2.12</td>
<td>Pralidoxime chloride</td>
<td>PFI</td>
<td>1g vial</td>
<td></td>
</tr>
<tr>
<td>4.2.13</td>
<td>Sodium calcium edetate</td>
<td>Injection</td>
<td>200mg/mL (5mL amp)</td>
<td></td>
</tr>
<tr>
<td>4.2.14</td>
<td>Sodium nitrite(^{48})</td>
<td>Injection</td>
<td>30mg/mL (10mL amp)</td>
<td></td>
</tr>
<tr>
<td>4.2.15</td>
<td>Sodium thiosulphate(^{49})</td>
<td>Injection</td>
<td>250mg/mL (50mL amp)</td>
<td></td>
</tr>
<tr>
<td>4.2.16</td>
<td>Succimer(^{50})</td>
<td>Capsule</td>
<td>100mg</td>
<td></td>
</tr>
</tbody>
</table>

### 5. ANTICONVULSANTS/ANTIEPILEPTICS

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Carbamazepine</td>
<td>a) Oral liquid</td>
<td>100mg/5mL</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[c]</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet</td>
<td>200mg (cross-scored)</td>
<td>4</td>
</tr>
</tbody>
</table>

---

\(^{43}\) To be phased out as better alternatives are available  
\(^{44}\) Pharmaceutical grade (ie. BP, EP, USP); for use in methanol poisoning  
\(^{45}\) Also known as dehydrated or absolute alcohol; for administration as a 10% solution in glucose 5% IV infusion  
\(^{46}\) For dilution (1 part + 4 parts water) before use as a 20% solution; if unavailable use ethanol 40% solution (eg. vodka)  
\(^{47}\) Use with close monitoring  
\(^{48}\) Use focused on areas where cyanide poisoning is more prevalent  
\(^{49}\) Use focused on areas where cyanide poisoning is more prevalent  
\(^{50}\) Also called dimercaptosuccinic acid (DMSA)
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2</td>
<td>Diazepam [c]</td>
<td>Gel or rectal solution</td>
<td>5mg/mL (0.5mL tube)</td>
<td>2</td>
</tr>
<tr>
<td>5.3</td>
<td>Gabapentin</td>
<td>Tablet</td>
<td>300mg</td>
<td>4</td>
</tr>
<tr>
<td>5.4</td>
<td>Lorazepam $^{52}$</td>
<td>Injection</td>
<td>4mg/1mL amp</td>
<td>2</td>
</tr>
<tr>
<td>5.5</td>
<td>Magnesium sulphate $^{53}$</td>
<td>Injection</td>
<td>a) 30mg/1mL amp [c]$^{54}$</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 200mg/1mL amp</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>c) Tablet (scored)</td>
<td>30mg</td>
</tr>
<tr>
<td>5.6</td>
<td>Phenobarbital sodium</td>
<td>Injection</td>
<td>a) Injection</td>
<td>50mg/mL (5mL vial)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) Oral liquid</td>
<td>30mg/5mL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>c) Tablet (f/c)</td>
<td>25mg</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>d) 100mg</td>
<td>4</td>
</tr>
<tr>
<td>5.7</td>
<td>Phenytoin sodium</td>
<td></td>
<td>a) Injection</td>
<td>50mg/mL (5mL vial)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) Oral liquid</td>
<td>30mg/5mL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>c) Tablet (f/c)</td>
<td>25mg</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>d) 100mg</td>
<td>4</td>
</tr>
<tr>
<td>5.8</td>
<td>Valproic acid (sodium valproate)</td>
<td>Oral liquid</td>
<td>a) Oral liquid</td>
<td>200mg/5mL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 200mg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>c) 500mg</td>
<td>4</td>
</tr>
</tbody>
</table>

**Specialist List**

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Level</th>
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</thead>
<tbody>
<tr>
<td>5.9</td>
<td>Lamotrigine</td>
<td>Tablet</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) 25mg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) 100mg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. ANTI-INFECTIVES

6.1 Anthelmintics

6.1.1 Intestinal anthelmintics

6.1.1.1 Albendazole $^{55}$

<table>
<thead>
<tr>
<th>Dose-form</th>
<th>Size</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet (chewable)</td>
<td>400mg</td>
<td>1</td>
</tr>
</tbody>
</table>

6.1.1.2 Praziquantel

<table>
<thead>
<tr>
<th>Dose-form</th>
<th>Size</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet (scored)</td>
<td>600mg</td>
<td>2</td>
</tr>
</tbody>
</table>

6.1.2 Antifilarials

6.1.2.1 Albendazole $^{56}$

<table>
<thead>
<tr>
<th>Dose-form</th>
<th>Size</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet (chewable)</td>
<td>400mg</td>
<td>1</td>
</tr>
</tbody>
</table>

6.1.2.2 Diethylcarbamazine dihydrogen citrate (DEC)

<table>
<thead>
<tr>
<th>Dose-form</th>
<th>Size</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet (scored)</td>
<td>100mg</td>
<td>4</td>
</tr>
</tbody>
</table>

6.1.3 Antischistosomals and other antitrematodes

6.1.3.1 Praziquantel

<table>
<thead>
<tr>
<th>Dose-form</th>
<th>Size</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet (scored)</td>
<td>600mg</td>
<td>2</td>
</tr>
</tbody>
</table>

---

$^{51}$ If not available, use diazepam injection solution 5mg/mL instead, administered rectally by syringe – without the needle!

$^{52}$ Use always with close monitoring

$^{53}$ Use only in management of pre-eclampsia; provides 5g per 10mL amp

$^{54}$ Use in paediatric emergencies

$^{55}$ Do not use in 1st trimester

$^{56}$ Do not use in 1st trimester
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2 Antibacterials</td>
<td>6.2.1 Beta Lactams</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.2.1.1</td>
<td>Amoxicillin</td>
<td>a) DT(^57) (scored)</td>
<td>250mg</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Capsule</td>
<td>500mg</td>
<td></td>
</tr>
<tr>
<td>6.2.1.2</td>
<td>Amoxicillin + clavulanic acid(^58)</td>
<td>a) DT (scored)</td>
<td>200mg + 28.5mg</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet</td>
<td>875mg + 125mg (1g)</td>
<td>3</td>
</tr>
<tr>
<td>6.2.1.3</td>
<td>Benzathine benzylpenicillin</td>
<td>PFI</td>
<td>900mg (1.2MU) vial</td>
<td>2</td>
</tr>
<tr>
<td>6.2.1.4</td>
<td>Benzylpenicillin(^59) (sodium or potassium)</td>
<td>PFI</td>
<td>600mg (1MU) vial</td>
<td>2</td>
</tr>
<tr>
<td>6.2.1.5</td>
<td>Cefazolin(^60)</td>
<td>Tablet</td>
<td>400mg (as trihydrate)</td>
<td>2</td>
</tr>
<tr>
<td>6.2.1.6</td>
<td>Cefixime(^61)</td>
<td>Injection</td>
<td>a) 250mg [c]</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 1g</td>
<td></td>
</tr>
<tr>
<td>6.2.1.7</td>
<td>Ceftriaxone(^62, 63) (as sodium salt)</td>
<td>a) Capsule</td>
<td>250mg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) PFI</td>
<td>500mg vial</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) PFOL</td>
<td>125mg/5mL</td>
<td>4</td>
</tr>
<tr>
<td>6.2.1.8</td>
<td>Flucloxacillin (as sodium salt)</td>
<td>Tablet</td>
<td>250mg</td>
<td>4</td>
</tr>
<tr>
<td>6.2.1.9</td>
<td>Phenoxy methylpenicillin(^64) (as potassium salt)</td>
<td>Tablet</td>
<td>250mg</td>
<td>4</td>
</tr>
<tr>
<td>6.2.1.10</td>
<td>Ceftazidime(^65) (as pentahydrate)</td>
<td>PFI</td>
<td>a) 250mg vial</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 1g vial</td>
<td></td>
</tr>
<tr>
<td>6.2.1.11</td>
<td>Imipenem + cilastin(^66)</td>
<td>PFI</td>
<td>a) 250mg + 250mg vial</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 500mg + 500mg vial</td>
<td></td>
</tr>
</tbody>
</table>

\(^{57}\) Dispersible tablet  
\(^{58}\) Also called co-amoxiclav; strength may be expressed as the total of the components  
\(^{59}\) Use only at Level 2 facilities in pre-referral management of a very sick child (with gentamicin)  
\(^{60}\) Use only in surgical prophylaxis (patients >1mth)  
\(^{61}\) Use at Level 2 restricted to syndromic management of STIs only  
\(^{62}\) Do not administer with calcium; avoid in infants with hyperbilirubinaemia; only use if infant is >41 weeks corrected gestational age  
\(^{63}\) Use at Level 2 restricted to STI syndrome management only  
\(^{64}\) Use only in sickle-cell prophylaxis and as an alternative to benzathine penicillin where this is not tolerated in prophylaxis of rheumatic heart disease  
\(^{65}\) For specialist 2\(^{nd}\) line use only where required laboratory diagnostic support and clear antibiotic use protocols are available  
\(^{66}\) For specialist 2\(^{nd}\) line use only in treatment of life-threatening hospital-based infections due to suspected or proven multi-drug resistant organisms; imipenem present as monohydrate, cilastin as sodium salt
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2.2.1</td>
<td>Azithromycin&lt;sup&gt;67&lt;/sup&gt;</td>
<td>a) Tablet (scored)</td>
<td>250mg (anhydrous)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) PFOL</td>
<td>200mg/5mL (anhydrous)</td>
<td>2</td>
</tr>
<tr>
<td>6.2.2.2</td>
<td>Ciprofloxacin</td>
<td>a) Oral liquid [c]</td>
<td>250mg/5mL (anhydrous)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet</td>
<td>250mg (as HCl)</td>
<td>2</td>
</tr>
<tr>
<td>6.2.2.3</td>
<td>Clarithromycin&lt;sup&gt;68&lt;/sup&gt;</td>
<td>Tablet (scored)</td>
<td>500mg</td>
<td>4</td>
</tr>
<tr>
<td>6.2.2.4</td>
<td>Cotrimoxazole (sulfamethoxazole + trimethoprim)</td>
<td>a) Injection&lt;sup&gt;69&lt;/sup&gt;</td>
<td>96mg/mL (10mL amp)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Oral liquid</td>
<td>240mg/5mL</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Tablet (scored)</td>
<td>480mg</td>
<td>2</td>
</tr>
<tr>
<td>6.2.2.5</td>
<td>Doxycycline&lt;sup&gt;70&lt;/sup&gt;</td>
<td>Tablet</td>
<td>100mg (as hyclate)</td>
<td>2</td>
</tr>
<tr>
<td>6.2.2.6</td>
<td>Gentamicin</td>
<td>Injection</td>
<td>(as sulphate)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a) Injection</td>
<td>5mg/mL (100mL vial)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Injection</td>
<td>10mg/mL (2mL vial)&lt;sup&gt;71&lt;/sup&gt;</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Injection</td>
<td>40mg/mL (2mL vial)&lt;sup&gt;72&lt;/sup&gt;</td>
<td>2</td>
</tr>
<tr>
<td>6.2.2.7</td>
<td>Metronidazole</td>
<td>b) Oral liquid</td>
<td>200mg/5mL (as benzoate)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Tablet (f/c)</td>
<td>200mg</td>
<td>2</td>
</tr>
<tr>
<td>6.2.2.8</td>
<td>Nitrofurantoin</td>
<td>Tablet</td>
<td>150mg</td>
<td>4</td>
</tr>
<tr>
<td>6.2.2.9</td>
<td>Tinidazole&lt;sup&gt;73&lt;/sup&gt;</td>
<td>Tablet (f/c)</td>
<td>500mg</td>
<td>2</td>
</tr>
</tbody>
</table>

**Specialist List**

| 6.2.2.10 | Ciprofloxacin                                   | Solution for IV infusion [c] | 2mg/mL (50mL bottle) (as lactate) | 2     |
| 6.2.2.11 | Clindamycin<sup>74</sup>                        | a) Capsule          | 150mg (as HCl)                  | 2     |
|       |                                                  | b) Injection        | 150mg/mL (2mL vial) (as phosphate) | 2   |
|       |                                                  | c) Oral liquid [c]  | 75mg/5mL (as palmitate)         | 2     |
| 6.2.2.12 | Vancomycin<sup>75</sup>                         | PFI                | 250mg vial (as HCl)             | 2     |

---

<sup>67</sup> Use at Level 2 restricted to STI syndromic management and penicillin hypersensitive patients only

<sup>68</sup> Use only in combination drug regimes for treatment of *H. pylori* infection

<sup>69</sup> Use only in treatment of pneumocystis pneumonia (PCP) and toxoplasmosis

<sup>70</sup> Use in children <8 years only for life-threatening infections if there is no alternative

<sup>71</sup> Use only for pre-referral management of a very sick child (with benzylpenicillin)

<sup>72</sup> Use only in 2<sup>nd</sup> line syndromic management of STI

<sup>73</sup> Useful longer-acting alternative to metronidazole in treatment regimes where single daily doses may be used to improve adherence

<sup>74</sup> For specialist use only in bone & joint infections and secondary bacterial infections in viral parotitis
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2.3.1</td>
<td>Clofazamine</td>
<td>Capsule</td>
<td>a) 50mg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 100mg</td>
<td></td>
</tr>
<tr>
<td>6.2.3.2</td>
<td>Dapsone</td>
<td>Tablet</td>
<td>25mg</td>
<td>4</td>
</tr>
<tr>
<td>6.2.3.3</td>
<td>Rifampicin</td>
<td>Capsule/Tablet</td>
<td>a) 150mg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 300mg</td>
<td></td>
</tr>
</tbody>
</table>

### 6.2.4 Antituberculosis medicines

#### Individual drugs

| 6.2.4.1 | Ethambutol (E)         | Tablet    | a) 100mg (dispersible) | 2     |
|         |                       |           | b) 400mg               |       |
| 6.2.4.2 | Isoniazid (H)          | Oral liquid | a) 50mg/5mL [c]       | 2     |
|         |                       | Tablet    | b) 100mg               |       |
|         |                       |           | c) 300mg               |       |
| 6.2.4.3 | Pyrazinamide (Z)       | Tablet    | 400mg                  | 2     |
| 6.2.4.4 | Rifampicin (R)         | Capsule   | a) 150mg               | 2     |
|         |                       |           | b) 300mg               |       |

#### Fixed-dose combinations (FDCs)

| 6.2.4.6 | Isoniazid + ethambutol (HE) | Tablet | 150mg + 400mg         | 2     |
|         |                           |       | a) 150mg + 75mg       |       |
| 6.2.4.7 | Rifampicin + isoniaizd (RH) | Tablet | b) 75mg + 50mg [c]   | 2     |
| 6.2.4.8 | Rifampicin + isoniaizd + ethambutol + (RHE) | Tablet | 150mg + 75mg + 275mg | 2     |
| 6.2.4.9 | Rifampicin + isoniaizd + pyrazinamide + (RHZ) | Tablet | a) 150mg + 75mg + 400mg | 2 |
|         |                           |       | b) 75mg + 50mg + 150mg [c] |       |
| 6.2.4.10 | Rifampicin + isoniaizd + pyrazinamide + ethambutol (RHZE) | Tablet | 150mg + 75mg + 400mg + 275mg | 2 |

#### Specialist List

| 6.2.4.11 | Amikacin | PFI | 500mg vial (as sulphate) |
| 6.2.4.12 | Bedaquiline | Tablet | 100mg |
| 6.2.4.13 | Capreomycin | PFI | 1g vial (as sulphate) |
| 6.2.4.14 | Cycloserine | Tablet | 250mg |
| 6.2.4.15 | Delamanid | Tablet | 50mg |
| 6.2.4.16 | Kanamycin | PFI | 1g vial (as sulphate) |

---

75 Use only in endocarditis & other serious methicillin-resistant staphylococcus aureus (MRSA) infections
76 Use only in combination, never individually
77 Antituberculosis treatment must always be with FDCs +/- additional individual drugs
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2.4.17</td>
<td>Levofloxacin</td>
<td>Tablet (scored)</td>
<td>500mg</td>
<td></td>
</tr>
<tr>
<td>6.2.4.18</td>
<td>Linezolid</td>
<td>Tablet</td>
<td>600mg</td>
<td></td>
</tr>
<tr>
<td>6.2.4.19</td>
<td>Moxifloxacin</td>
<td>Tablet</td>
<td>400mg</td>
<td></td>
</tr>
<tr>
<td>6.2.4.20</td>
<td>p-aminosalicylic acid (PAS)</td>
<td>Granules</td>
<td>4g sachet</td>
<td></td>
</tr>
<tr>
<td>6.2.4.21</td>
<td>Prothionamide</td>
<td>Tablet</td>
<td>250mg</td>
<td></td>
</tr>
<tr>
<td>6.2.4.22</td>
<td>Rifabutin (RFB3)</td>
<td>Capsule</td>
<td>150mg</td>
<td></td>
</tr>
</tbody>
</table>

### 6.3 Antifungals

| 6.3.1 | Amphotericin B<sup>78</sup> | PFI                 | 50mg vial (as sodium deoxycholate) | 4     |
| 6.3.2 | Clotrimazole<sup>79</sup>    | Vaginal tablet     | 500mg                           | 2     |
| 6.3.3 | Fluconazole                  | Capsule            | a) 50mg<sup>80</sup>            | 2     |
|        |                             |                   | b) 200mg                        | 4     |
|        |                             |                   | c) Injection<sup>81</sup>       | 4     |
|        |                             |                   | d) Oral liquid [c]              | 4     |
| 6.3.4 | Griseofulvin                | Tablet             | 125mg                          | 2     |
| 6.3.5 | Nystatin                   | Oral liquid (suspension) | 100,000 IU/mL               | 2     |

### 6.4 Antivirals

#### 6.4.1 Antitherpes medicines

| 6.4.1.1 | Aciclovir                     | Tablet            | 200mg (scored) | 2     |

**Specialist List**

| 6.4.1.2 | Aciclovir<sup>82</sup>        | PFI               | 250mg vial (as sodium salt) |       |

#### 6.4.2 Antiretrovirals

##### 6.4.2.1 Nucleoside/nucleotide reverse transcriptase inhibitors (NRTI)

| 6.4.2.1.1 | Abacavir (ABC)                | Tablet            | 300mg                         | 2     |
| 6.4.2.1.2 | Lamivudine (3TC)              | a) Oral liquid    | 50mg/5mL                      | 2     |
|            |                                | b) Tablet         | 150mg                         | 2     |
| 6.4.2.1.3 | Stavudine (d4T)               | Tablet            | 30mg                          | 2     |
| 6.4.2.1.4 | Tenofovir disoproxil fumarate (TDF) | a) 150mg          | 2                             |
|            |                                | b) 200mg          | 2                             |
|            |                                | c) 300mg          | 2                             |
| 6.4.2.1.5 | Zidovudine (ZDV or AZT)       | a) Oral liquid    | 50mg/5mL                      | 2     |
|            |                                | b) Tablet         | 300mg                         | 2     |

<sup>78</sup> Only use in invasive fungal infections

<sup>79</sup> Use as alternative to fluconazole in pregnancy

<sup>80</sup> Use at Level 2 restricted to STI syndromic management only

<sup>81</sup> Use only in cryptococcal meningitis

<sup>82</sup> Use only in viral encephalitis
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.4.2.2.2.1</td>
<td>Efavirenz (EFV or EFZ)</td>
<td>Tablet</td>
<td>a) 200mg (double-scored)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 400mg</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>c) 600mg</td>
<td>2</td>
</tr>
<tr>
<td>6.4.2.2.2</td>
<td>Etravirine (ETV)</td>
<td>Tablet</td>
<td>a) 25mg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 100mg</td>
<td>4</td>
</tr>
<tr>
<td>6.4.2.2.2.2</td>
<td>Nevirapine (NVP)</td>
<td>a) Oral liquid</td>
<td>10mg/mL</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet</td>
<td>200mg</td>
<td>2</td>
</tr>
<tr>
<td>6.4.2.3.1</td>
<td>Atazanavir + ritonavir</td>
<td>Tablet</td>
<td>300mg + 100mg</td>
<td>2</td>
</tr>
<tr>
<td>6.4.2.3.2</td>
<td>Darunavir (TCM)</td>
<td>a) Oral liquid (susp)</td>
<td>100mg/mL</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) 75mg</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) 150mg</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>d) 600mg</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>6.4.2.3.3</td>
<td>Lopinavir + ritonavir (LPV/r)</td>
<td>a) Oral liquid</td>
<td>400mg + 100mg/5mL</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet (heat-stable)</td>
<td>200mg + 50mg</td>
<td>2</td>
</tr>
<tr>
<td>6.4.2.3.4</td>
<td>Ritonavir</td>
<td>a) Oral liquid</td>
<td>400mg/5mL</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet (heat-stable)</td>
<td>100mg</td>
<td>2</td>
</tr>
<tr>
<td>6.4.2.4.1</td>
<td>Raltegravir</td>
<td>Tablet</td>
<td>a) 25mg</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) 100mg</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) 400mg (f/c)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6.4.2.5.1</td>
<td>Abacavir + lamivudine (ABC + 3TC)</td>
<td>Tablet</td>
<td>a) 60mg (as sulphate) + 30mg</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 120mg (as sulphate) + 60mg</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>c) 600mg (as sulphate) + 60mg</td>
<td>2</td>
</tr>
<tr>
<td>6.4.2.5.2</td>
<td>Efavirenz + lamivudine + tenofovir (EFV + 3TC + TDF)</td>
<td>Tablet</td>
<td>a) 400mg + 300mg + 300mg</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 600mg + 300mg + 300mg</td>
<td>2</td>
</tr>
<tr>
<td>6.4.2.5.3</td>
<td>Emtricitabine + tenofovir</td>
<td>Tablet</td>
<td>200g + 300mg</td>
<td>2</td>
</tr>
</tbody>
</table>

83 This strength is being phased out
84 Tenofovir disoproxil fumarate (TDF)
## Drug Dose - form 
### 6.4.2.5.4 Lamivudine + tenofovir (3TC + TDF) 
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.4.2.5.4</td>
<td>Lamivudine + tenofovir (3TC + TDF)</td>
<td>Tablet</td>
<td>300mg + 300mg (disoproxil fumarate)</td>
<td>2</td>
</tr>
<tr>
<td>6.4.2.5.5</td>
<td>Lamivudine + zidovudine (3TC + ZDV)</td>
<td>Tablet</td>
<td>a) 30mg + 60mg</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 150mg + 300mg</td>
<td>2</td>
</tr>
<tr>
<td>6.4.2.5.6</td>
<td>Lamivudine + nevirapine + zidovudine (3TC + NVP + ZDV)</td>
<td>Tablet</td>
<td>a) 30mg + 50mg + 60mg</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 150mg + 200mg + 300mg</td>
<td>2</td>
</tr>
</tbody>
</table>

### 6.4.3 Other antivirals

#### Specialist List

- **6.4.3.1 Ganciclovir**<sup>85</sup>
  - PFI
  - 500mg vial
- **6.4.3.2 Ribavirin**<sup>86</sup>
  - Tablet (film-coated)
  - a) 200mg
  - b) 400mg

### 6.4.4 Antihepatitis medicines<sup>87</sup>

#### 6.4.4.1 Hepatitis B medicines

- **Specialist List**

#### 6.4.4.1.1 Pegylated interferon alfa-2a
- Injection (vial or prefilled syringe)
- 180 micrograms

#### 6.4.4.1.2 Tenofovir disoproxil fumarate (TDF)
- Tablet
- 300mg<sup>88</sup>

#### 6.4.4.2 Hepatitis C medicines

- **Specialist List**

#### 6.4.4.2.1 Pegylated interferon alfa-2a
- Injection (vial or prefilled syringe)
- 180 micrograms

#### 6.4.4.2.2 Ribavirin<sup>89</sup>
- Tablet (film-coated)
  - a) 200mg
  - b) 400mg

### 6.5 Antiprotozoals

#### 6.5.1 Antiamoebic & anti giardia Medicines

- **6.5.1.1 Diloxanide**<sup>90</sup>
  - Tablet
  - 500mg (furoate)
- **6.5.1.2 Metronidazole**
  - a) Injection
    - 500mg/100mL vial
  - b) Oral liquid
    - 200mg/5mL (as benzoate)

---

<sup>85</sup> Use in management of cytomegalovirus retinitis (CMV)

<sup>86</sup> Use in treatment of viral haemorrhagic fevers and, in combination with pegylated interferon, in treatment of hepatitis C

<sup>87</sup> This section will be revised following the review and update of national hepatitis management guidelines in line with new WHO recommendations

<sup>88</sup> TDF equivalent to 245mg tenofovir disoproxil

<sup>89</sup> Use also in treatment of viral haemorrhagic fevers

<sup>90</sup> Use only in patients >25kg
### 6.5. Antimicrobials

#### 6.5.1 Antiprotozoals

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5.1.2</td>
<td>Metronidazole</td>
<td>c) Tablet</td>
<td>400mg (scored)</td>
<td>2</td>
</tr>
<tr>
<td>6.5.1.3</td>
<td>Tinidazole³¹</td>
<td>Tablet</td>
<td>500mg</td>
<td>2</td>
</tr>
</tbody>
</table>

**6.5.2 Antileishmaniasis medicines**

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5.2.1</td>
<td>Amphotericin B</td>
<td>PFI</td>
<td>50mg vial (as sodium deoxycholate)</td>
<td>4</td>
</tr>
<tr>
<td>6.5.2.2</td>
<td>Paromomycin³²</td>
<td>Injection solution (IM)</td>
<td>375mg base/mL (as sulphate) (2mL amp)</td>
<td>4</td>
</tr>
<tr>
<td>6.5.2.3</td>
<td>Sodium stibogluconate³³</td>
<td>Injection</td>
<td>100mg/mL (100mL vial)</td>
<td>4</td>
</tr>
</tbody>
</table>

**6.5.3 Antimalarials**

#### 6.5.3.1 Curative

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5.3.1.1</td>
<td>Artemether + lumefantrine⁴⁴ (AL)</td>
<td>a) Tablet⁵⁵</td>
<td>20mg + 120mg</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet (dispersible)⁶⁶</td>
<td>20mg + 120mg</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Tablet⁶⁷</td>
<td>80mg + 480mg</td>
<td>1</td>
</tr>
<tr>
<td>6.5.3.1.2</td>
<td>Artesunate⁶⁸</td>
<td>Injection</td>
<td>30mg vial⁹⁹</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rectal capsule¹⁰¹</td>
<td>100mg</td>
<td>2</td>
</tr>
<tr>
<td>6.5.3.1.3</td>
<td>Dihydroartemisinin + piperaquine (DHA+PPQ)¹⁰²</td>
<td>Tablet (scored)</td>
<td>40mg + 320mg</td>
<td>3</td>
</tr>
<tr>
<td>6.5.3.1.4</td>
<td>Quinine</td>
<td>a) Injection¹⁰³</td>
<td>300mg/mL (2mL amp) (hydrochloride)</td>
<td>2</td>
</tr>
</tbody>
</table>

---

³¹ Useful for giardia (2g single dose); may also be used for other indications as a longer acting alternative to metronidazole
³² Use only in combination with sodium stibogluconate; also called aminosidine
³³ Use only in combination with paromomycin
⁴⁴ Do not use in 1st trimester of pregnancy (use oral quinine)
⁵⁵ Use for patients 24-35kg
⁵⁶ Use for patients <24kg
⁶⁷ Use for patients >35kg
⁶⁸ Always follow artesunate treatment (24 hours minimum) with a 3-day course of arteether + lumefantrine (once the patient can take oral medication)
⁹⁹ Co-packed with 0.5mL amp of sodium bicarbonate 5% (50mg/mL) and 2.5mL amp of sodium chloride 0.9% (9mg/mL) as diluents
¹⁰⁰ Co-packed with 1mL amp of sodium bicarbonate 5% (50mg/mL) and 5mL amp of sodium chloride 0.9% (9mg/mL) as diluents
¹⁰¹ Use for management of severe malaria only if parenteral artesunate is not available
¹⁰² Use only as 2nd line medicine for confirmed uncomplicated malaria treatment failure with 1st line AL
¹⁰³ Use only for severe malaria when 1st line artesunate injection is not available
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5.3.1.4</td>
<td>Quinine</td>
<td>b) Tablet (f/c)(^{104})</td>
<td>300mg (sulphate or bisulphate)</td>
<td>2</td>
</tr>
<tr>
<td>6.5.3.1.5</td>
<td>Primaquine(^{105})</td>
<td>Tablet</td>
<td>7.5mg (as diphosphate)</td>
<td>4</td>
</tr>
<tr>
<td>6.5.3.2</td>
<td><strong>Prophylactic</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.5.3.2.1</td>
<td>Doxycycline(^{106})</td>
<td>Capsule</td>
<td>100mg (as HCl)</td>
<td>2</td>
</tr>
<tr>
<td>6.5.3.2.2</td>
<td>Proguanil hydrochloride(^{107})</td>
<td>Tablet</td>
<td>100mg</td>
<td>4</td>
</tr>
<tr>
<td>6.5.3.3</td>
<td><strong>Intermittent presumptive treatment in pregnancy (IPTp)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.5.3.3.1</td>
<td>Sulfadoxine + pyrimethamine</td>
<td>Tablet</td>
<td>500mg + 25mg</td>
<td>2</td>
</tr>
<tr>
<td>6.5.4</td>
<td><strong>Antipneumocystosis and antitoxoplasmosis medicines</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.5.4.1</td>
<td>Cotrimoxazole</td>
<td>a) Injection</td>
<td>96mg/mL (5mL amp)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Oral liquid</td>
<td>240mg/5mL (^c)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Tablet</td>
<td>480mg</td>
<td>4</td>
</tr>
<tr>
<td>6.5.4.2</td>
<td>Sulfadoxine + pyrimethamine</td>
<td>Tablet</td>
<td>500mg + 25mg</td>
<td>4</td>
</tr>
<tr>
<td>6.5.5</td>
<td><strong>Antitrypanosomal medicines</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.5.5.1.1</td>
<td>Pentamidine isetinate</td>
<td>PFI</td>
<td>200mg vial</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><em>Specialist List</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.5.5.1.2</td>
<td>Suramin sodium</td>
<td>PFI</td>
<td>1g vial</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Specialist List</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.5.5.1.3</td>
<td>Melarsoprol</td>
<td>Injection</td>
<td>3.6% solution (5mL amp) (= 180mg)</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td><strong>ANTIMIGRAINE MEDICINES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.1</td>
<td><strong>Acute attack</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.1.1</td>
<td>Aspirin</td>
<td>Tablet</td>
<td>300mg</td>
<td>2</td>
</tr>
<tr>
<td>7.1.2</td>
<td>Ibuprofen(^{108})</td>
<td>Tablet</td>
<td>200mg</td>
<td>2</td>
</tr>
<tr>
<td>7.1.3</td>
<td>Paracetamol</td>
<td>a) Oral liquid (^c)</td>
<td>125mg/5mL (^{109})</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Suppository (^c)</td>
<td>125mg</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Tablet (scored)</td>
<td>500mg</td>
<td>1</td>
</tr>
</tbody>
</table>

\(^{104}\) Use only for uncomplicated malaria treatment in 1\(^{st}\) trimester of pregnancy
\(^{105}\) Use only for radical cure of P. vivax infection (14 day course)
\(^{106}\) Use only in patients >8 years; for prophylaxis in non-immune visitors to endemic areas
\(^{107}\) Use only for prophylaxis in patients with sickle-cell disease and tropical splenomegaly syndrome (TSS)
\(^{108}\) Do not use in children < 3 months old
\(^{109}\) 120mg/5mL is an alternative strength
# Drug Dose-form Size/strength Level

## 7.2 Prophylactics

**7.2.1** Propranolol HCl\(^{110}\) Tablet 40mg 4

## 8. ANTINEOPLASTICS and IMMUNOSUPPRESSIVES

### 8.1 Immunosuppressives

**Specialist List**

| 8.1.1 | Azathioprine | a) PFI 100mg vial (sodium salt) | 50mg |
| 8.1.2 | Ciclosporin | Capsule a) 25mg |
| 8.1.3 | Methylprednisolone | b) Tablet (scored) 50mg |
| 8.1.4 | Mycophenolic acid\(^{112}\) | c) Concentrate for injection\(^{111}\) 50mg/1mL amp |
| 8.1.5 | Prednisolone | a) 125mg |
| 8.1.6 | Tacrolimus | b) 500micrograms |

### 8.2 Cytotoxics and adjuvants

**Specialist List**

| 8.2.1 | Alendronic acid\(^{113}\) | Tablet 70mg |
| 8.2.2 | Allopurinol\(^{114}\) | Tablet a) 100mg b) 300mg |
| 8.2.3 | Asparaginase\(^{115}\) | PFI 10,000 IU vial |
| 8.2.4 | Bleomycin\(^{116}\) | PFI 15mg vial (as sulphate) |

\(^{110}\) Use only for this indication (ie. do not use as an alternative antihypertensive)

\(^{111}\) Use in organ transplantation

\(^{112}\) Mycophenolate mofetil tablets 250mg & 500mg may be available as a much cheaper alternative but with a less favourable side-effects profile; the two salts are not interchangeable as they have different pharmacokinetics

\(^{113}\) Use as adjuvant in management of breast & prostate cancers and multiple myeloma

\(^{114}\) Use for prophylaxis of chemotherapy-induced hyperuricaemia

\(^{115}\) Use in acute lymphoblastic leukaemia; anaphylaxis treatment must be available; the type required is that produced by Erwinia chrysanthemi (also known as crisantaspase)

\(^{116}\) Use in Hodgkin lymphoma, Kaposi sarcoma, ovarian and testicular germ cell tumour
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.2.5</td>
<td>Calcium folinate (^\text{117})</td>
<td>Injection</td>
<td>a) 10mg/mL (5mL vial)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tablet</td>
<td>b) 15mg</td>
<td></td>
</tr>
<tr>
<td>8.2.6</td>
<td>Capecitabine (^\text{118})</td>
<td>Tablet</td>
<td>a) 150mg</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 500mg</td>
<td></td>
</tr>
<tr>
<td>8.2.7</td>
<td>Carboplatin (^\text{119})</td>
<td>Injection</td>
<td>a) 10mg/mL (15mL vial)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 10mg/mL (45mL vial)</td>
<td></td>
</tr>
<tr>
<td>8.2.8</td>
<td>Chlorambucil (^\text{120})</td>
<td>Tablet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.2.9</td>
<td>Cisplatin (^\text{121})</td>
<td>Injection</td>
<td>1mg/mL (50mL vial)</td>
<td></td>
</tr>
<tr>
<td>8.2.10</td>
<td>Cyclophosphamide (^\text{122})</td>
<td>PFI</td>
<td>a) 200mg vial</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 500mg vial</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Tablet</td>
<td>25mg</td>
<td></td>
</tr>
<tr>
<td>8.2.11</td>
<td>Cytarabine (^\text{123})</td>
<td>PFI</td>
<td>100mg vial</td>
<td></td>
</tr>
<tr>
<td>8.2.12</td>
<td>Dacarbazine (^\text{124})</td>
<td>PFI</td>
<td>200mg vial (as citrate)</td>
<td></td>
</tr>
<tr>
<td>8.2.13</td>
<td>Dactinomycin (^\text{125})</td>
<td>PFI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.2.14</td>
<td>Daunorubicin (^\text{126})</td>
<td>PFI</td>
<td>20mg vial (as HCl)</td>
<td></td>
</tr>
<tr>
<td>8.2.15</td>
<td>Docetaxel (^\text{127})</td>
<td>Injection</td>
<td>a) 20mg</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 80mg</td>
<td></td>
</tr>
</tbody>
</table>

\(^{117}\) Use in early stage colon & rectal cancers, gestational trophoblastic neoplasia, metastatic colorectal cancer, osteosarcoma, Burkitt lymphoma; also useful in gynaecological tumours

\(^{118}\) Use in early stage colon & rectal cancers, metastatic breast & colorectal cancers

\(^{119}\) Use in early stage breast cancer, epithelial ovarian cancer, nasopharyngeal cancer, non-small cell lung cancer, osteosarcoma, retinoblastoma

\(^{120}\) Use in chronic lymphocytic leukaemia

\(^{121}\) Use in cervical, head & nasopharyngeal cancers - as a radio-sensitizer; non-small cell lung cancer, osteosarcoma, ovarian & testicular germ cell tumours

\(^{122}\) Use in chronic lymphocytic leukaemia, diffuse large B-cell lymphoma, early stage breast cancer, gestational trophoblastic neoplasia, Hodgkin & follicular lymphomas, rhabdomyosarcoma, Ewing sarcoma, acute lymphoblastic leukaemia, Burkitt lymphoma, metastatic breast cancer

\(^{123}\) Use in acute myelogenous, lymphoblastic & promyelocytic leukaemias, Burkitt lymphoma

\(^{124}\) Use in Hodgkin lymphoma

\(^{125}\) Use in gestational trophoblastic neoplasia, rhabdomyosarcoma, Wilms tumour

\(^{126}\) Use in acute lymphoblastic, myelogenous & promyelocytic leukaemias

\(^{127}\) Use in early stage & metastatic breast cancers, metastatic prostate cancer

\(^{128}\) Both strengths may be available (as a concentrate for dilution for infusion) as either a vial of PFI + diluent or as ready-made injection solution. Selection should be based on relative availability & cost
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.2.16</td>
<td>Doxorubicin&lt;sup&gt;129&lt;/sup&gt;</td>
<td>PFI</td>
<td>a) 10mg vial (as HCl)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 50mg vial (as HCl)</td>
<td></td>
</tr>
<tr>
<td>8.2.17</td>
<td>Etoposide&lt;sup&gt;130&lt;/sup&gt;</td>
<td>Injection</td>
<td>20mg/mL (5mL vial)</td>
<td></td>
</tr>
<tr>
<td>8.2.18</td>
<td>Filgrastim&lt;sup&gt;131&lt;/sup&gt;</td>
<td>Injection (prefilled syringe)</td>
<td>a) 120 micrograms/0.2mL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 300 micrograms/0.5mL</td>
<td></td>
</tr>
<tr>
<td>8.2.19</td>
<td>Fluorouracil&lt;sup&gt;132&lt;/sup&gt;</td>
<td>Injection</td>
<td>50mg/mL (5mL vial)</td>
<td></td>
</tr>
<tr>
<td>8.2.20</td>
<td>Gemicitabine&lt;sup&gt;133&lt;/sup&gt;</td>
<td>PFI</td>
<td>a) 200mg vial</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 1g vial</td>
<td></td>
</tr>
<tr>
<td>8.2.21</td>
<td>Hydroxycarbamidine&lt;sup&gt;134&lt;/sup&gt; (hydroxyurea)</td>
<td>Capsule</td>
<td>a) 250mg</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 500mg</td>
<td></td>
</tr>
<tr>
<td>8.2.22</td>
<td>Ifosfamide&lt;sup&gt;135&lt;/sup&gt;</td>
<td>PFI</td>
<td>a) 1g vial</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 2g vial</td>
<td></td>
</tr>
<tr>
<td>8.2.23</td>
<td>Imatinib&lt;sup&gt;136&lt;/sup&gt;</td>
<td>Tablet (as mesilate)</td>
<td>400mg</td>
<td></td>
</tr>
<tr>
<td>8.2.24</td>
<td>Irinotecan&lt;sup&gt;137&lt;/sup&gt;</td>
<td>Injection</td>
<td>a) 20mg/mL (2mL vial)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 20mg/mL (5mL vial)</td>
<td></td>
</tr>
<tr>
<td>8.2.25</td>
<td>Mercaptopurine&lt;sup&gt;138&lt;/sup&gt;</td>
<td>Tablet (scored)</td>
<td>50mg</td>
<td></td>
</tr>
<tr>
<td>8.2.26</td>
<td>Melphalan&lt;sup&gt;139&lt;/sup&gt;</td>
<td>Tablet</td>
<td>2mg</td>
<td></td>
</tr>
<tr>
<td>8.2.27</td>
<td>Mesna&lt;sup&gt;140&lt;/sup&gt;</td>
<td>Injection</td>
<td>100mg/mL (2mL amp)</td>
<td></td>
</tr>
</tbody>
</table>

<sup>129</sup> Use in diffuse large B-cell lymphoma, early stage breast cancer, Hodgkin lymphoma, Kaposi sarcoma, follicular lymphoma, metastatic breast cancer, osteosarcoma, Ewing sarcoma, acute lymphoblastic leukaemia, Wilms tumour, Burkitt lymphoma

<sup>130</sup> Use in testicular germ cell tumour, gestational trophoblastic neoplasia, Hodgkin and Burkitt lymphomas, non-small cell lung cancer, ovarian germ cell tumour, retinoblastoma, Ewing sarcoma, acute lymphoblastic leukaemia

<sup>131</sup> Use as primary prophylaxis in those at high risk for developing febrile neutropenia associated with myelotoxic chemotherapy; use as secondary prophylaxis for patients who have experienced neutropenia following prior myelotoxic chemotherapy, to facilitate administration of dose dense chemotherapy regimens

<sup>132</sup> Use in early stage breast, colon & rectal cancers, metastatic colorectal cancer, nasopharyngeal cancer

<sup>133</sup> Use in epithelial ovarian cancer, non-small cell lung cancer

<sup>134</sup> Use in chronic myeloid leukaemia

<sup>135</sup> Use in testicular & ovarian germ cell tumour, osteosarcoma, rhabdomyosarcoma, Ewing sarcoma

<sup>136</sup> Use in chronic myeloid leukaemia, gastrointestinal stromal tumour

<sup>137</sup> Use as 2nd line agent in metastatic colorectal cancer

<sup>138</sup> Use in acute lymphoblastic & promyelocytic leukaemias

<sup>139</sup> Use in multiple myeloma
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.2.28</td>
<td>Methotrexate(^{141})</td>
<td>a) PFI (as sod. salt) (preservative-free)</td>
<td>25mg/mL (2mL vial)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet</td>
<td>2.5mg (as sodium salt)</td>
<td></td>
</tr>
<tr>
<td>8.2.29</td>
<td>Oxaliplatin(^{142})</td>
<td>Injection</td>
<td>a) 2mg/mL (25mL vial)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 2mg/mL (50mL vial)</td>
<td></td>
</tr>
<tr>
<td>8.2.30</td>
<td>Paclitaxel(^{143})</td>
<td>Injection</td>
<td>a) 6mg/mL (5mL vial)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 6mg/mL (16.7mL vial)(^{144})</td>
<td></td>
</tr>
<tr>
<td>8.2.31</td>
<td>Procarbazine</td>
<td>Capsule</td>
<td>50mg (as HCl)</td>
<td></td>
</tr>
<tr>
<td>8.2.32</td>
<td>Rituximab(^{145})</td>
<td>Injection</td>
<td>a) 10mg/mL (10mL vial)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 10mg/mL (50mL vial)</td>
<td></td>
</tr>
<tr>
<td>8.2.33</td>
<td>Thalidomide(^{146})</td>
<td>Capsule</td>
<td>100mg</td>
<td></td>
</tr>
<tr>
<td>8.2.34</td>
<td>Trastuzumab(^{147})</td>
<td>PFI</td>
<td>a) 150mg vial</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 440mg vial + diluent</td>
<td></td>
</tr>
<tr>
<td>8.2.35</td>
<td>Vinblastine sulphate(^{148})</td>
<td>Injection</td>
<td>1mg/mL (10mL vial)</td>
<td></td>
</tr>
<tr>
<td>8.2.36</td>
<td>Vinorelbine(^{149})</td>
<td>Injection</td>
<td>a) 10mg/mL (1mL vial)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 10mg/mL (5mL vial)</td>
<td></td>
</tr>
<tr>
<td>8.2.37</td>
<td>Zoledronic acid(^{50})</td>
<td>Injection</td>
<td>800 micrograms/mL (5mL vial)(^{51})</td>
<td></td>
</tr>
</tbody>
</table>

### 8.3 Hormones and antihormones

**Specialist List**

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.3.1</td>
<td>Anastrozole(^{52})</td>
<td>Tablet</td>
<td>1mg</td>
<td></td>
</tr>
<tr>
<td>8.3.2</td>
<td>Bicalutamide(^{53})</td>
<td>Tablet</td>
<td>50mg</td>
<td></td>
</tr>
</tbody>
</table>

---

\(^{140}\) Use in testicular & ovarian germ cell tumours, osteosarcoma, rhabdomyosarcoma, Ewing sarcoma  
\(^{141}\) Use in early stage breast cancer, gestational trophoblastic neoplasia, osteosarcoma, acute lymphoblastic and promyelocytic leukaemias  
\(^{142}\) Use in early stage colon cancer, metastatic colorectal cancer  
\(^{143}\) Use in epithelial ovarian cancer, early stage & metastatic breast cancers, Kaposi sarcoma, nasopharyngeal cancer, non-small cell lung cancer, ovarian germ cell tumour  
\(^{144}\) Providing a total of 100mg/vial  
\(^{145}\) Use in diffuse large B-cell and follicular lymphomas, chronic lymphocytic leukaemia  
\(^{146}\) Use (with melphalan & prednisolone) in management of multiple myeloma  
\(^{147}\) Use in early stage & metastatic HER2-positive breast cancer  
\(^{148}\) Use in Hodgkin lymphoma, Kaposi sarcoma, testicular & ovarian germ cell tumour  
\(^{149}\) Use in non-small cell lung cancer, metastatic breast cancer  
\(^{150}\) Use as adjuvant in management of breast & prostate cancers and multiple myeloma  
\(^{151}\) Provides a total of 4mg per vial  
\(^{152}\) Letrozole tablets 2.5mg may be available and used as a much cheaper alternative  
\(^{153}\) Use in metastatic prostate cancer
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.3.3</td>
<td>Dexamethasone&lt;sup&gt;154&lt;/sup&gt;</td>
<td>a) Injection</td>
<td>4mg/1mL amp (as sodium phosphate)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet</td>
<td>500 micrograms</td>
<td></td>
</tr>
<tr>
<td>8.3.4</td>
<td>Diethylstilboestrol (DES)&lt;sup&gt;155&lt;/sup&gt;</td>
<td>Tablet</td>
<td>5mg</td>
<td></td>
</tr>
<tr>
<td>8.3.5</td>
<td>Goserelin&lt;sup&gt;156&lt;/sup&gt;</td>
<td>Implant (in syringe applicator)</td>
<td>a) 3.6mg (as acetate)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 10.8mg (as acetate)</td>
<td></td>
</tr>
<tr>
<td>8.3.6</td>
<td>Hydrocortisone&lt;sup&gt;157&lt;/sup&gt;</td>
<td>PFI</td>
<td>100mg vial (as sodium succinate)</td>
<td></td>
</tr>
<tr>
<td>8.3.7</td>
<td>Methylprednisolone&lt;sup&gt;158&lt;/sup&gt; [c]</td>
<td>PFI</td>
<td>500mg vial</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.3.8</td>
<td>Prednisolone&lt;sup&gt;159&lt;/sup&gt;</td>
<td>a) Oral liquid [c]</td>
<td>15mg/5mL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet</td>
<td>5mg</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) 25mg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.3.9</td>
<td>Tamoxifen&lt;sup&gt;160&lt;/sup&gt;</td>
<td>Tablet</td>
<td>20mg (as citrate)</td>
<td></td>
</tr>
</tbody>
</table>

**8.4 Medicines for benign prostatic hyperplasia (BPH)**

**Specialist List**

| 8.4.1 | Finasteride                   | Tablet     | 5mg                                  |         |
| 8.4.2 | Tamsulosin HCL                | Tablet     | 400 micrograms                       |         |

**9. ANTIPARKINSONISM MEDICINES**

| 9.1  | Benzhexol HCL                  | Tablet     | 5mg                                  | 4       |
| 9.2  | Levodopa + carbidopa          | Tablet     | a) 100mg + 10mg                      | 4       |
|      |                                |            | b) 250mg + 25mg                      | 4       |

**Specialist List**

| 9.3  | Pramipexole                    | Tablet (scored) | a) 180 micrograms base            |         |
|      |                                |                | b) 700 micrograms base            |         |

**10. MEDICINES AFFECTING the BLOOD**

**10.1 Antianaemias**

| 10.1.1 | Ferrous salt                  | a) Oral liquid (drops) | 25mg/mL elemental iron<sup>161</sup> | 2       |

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<sup>154</sup> Use in acute lymphoblastic leukaemia
<sup>155</sup> Use in management of prostate cancer
<sup>156</sup> Use in early stage & metastatic breast cancers & metastatic prostate cancer (leuprorelin may be available and used as an alternative)
<sup>157</sup> Use in acute lymphoblastic leukaemia
<sup>158</sup> Use in acute lymphoblastic leukaemia
<sup>159</sup> Use in chronic lymphocytic & acute lymphoblastic leukaemias; diffuse large B-cell, Hodgkin, follicular & Burkitt lymphomas
<sup>160</sup> Use in early stage & metastatic breast cancers
<sup>161</sup> Eg. ferrous sulphate solution 125mg/mL
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1.1</td>
<td>Ferrous salt</td>
<td>b) Tablet f/c</td>
<td>60-65mg elemental iron</td>
<td>2</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>10.1.2</td>
<td>Ferrous salt + folic acid</td>
<td>Tablet f/c</td>
<td>60-65mg elemental iron + 400 micrograms</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>10.1.3</td>
<td>Folic acid</td>
<td>Tablet</td>
<td>a) 400 micrograms</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 5mg</td>
<td></td>
</tr>
<tr>
<td>10.1.4</td>
<td>Hydroxocobalamin (Vit B₁₂)</td>
<td>Injection</td>
<td>1mg/1mL amp (as HCl, acetate or sulphate)</td>
<td>4</td>
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</tbody>
</table>

### 10.2 Medicines affecting coagulation

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
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</thead>
<tbody>
<tr>
<td>10.2.1</td>
<td>Heparin sodium</td>
<td>Injection</td>
<td>5,000 IU/mL (5mL vial)</td>
<td>4</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>10.2.2</td>
<td>Phytomenadione (Vit K₁)</td>
<td>Injection</td>
<td>a) 1mg/1mL amp [c]</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 10mg/mL (5mL amp)</td>
<td></td>
</tr>
<tr>
<td>10.2.3</td>
<td>Protamine sulphate</td>
<td>Injection</td>
<td>10mg/mL (5mL amp)</td>
<td>4</td>
</tr>
<tr>
<td>10.2.4</td>
<td>Tranexamic acid</td>
<td>Injection</td>
<td>100mg/mL (5mL amp)</td>
<td>4</td>
</tr>
<tr>
<td>10.2.5</td>
<td>Warfarin sodium</td>
<td>Tablet</td>
<td>a) 1mg (scored)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 5mg (scored)</td>
<td></td>
</tr>
</tbody>
</table>

#### Specialist List

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.2.6</td>
<td>Enoxaparin</td>
<td>Injection (prefilled syringe)</td>
<td>a) 40mg/0.4mL</td>
<td>4</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>10.2.7</td>
<td>Heparin sodium [c]</td>
<td>Injection</td>
<td>5,000 IU/mL (5mL vial)</td>
<td>4</td>
</tr>
<tr>
<td>10.2.8</td>
<td>Protamine sulphate [c]</td>
<td>Injection</td>
<td>10mg/mL (5mL amp)</td>
<td>4</td>
</tr>
<tr>
<td>10.2.9</td>
<td>Warfarin sodium [c]</td>
<td>Tablet</td>
<td>a) 1mg (scored)</td>
<td>4</td>
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### 10.3 Other medicines for haemoglobinopathies

#### Specialist List

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<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
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<tbody>
<tr>
<td>10.3.1</td>
<td>Deferasirox</td>
<td>Tablet</td>
<td>a) 100mg</td>
<td>4</td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>10.3.2</td>
<td>Deferoxamine mesilate</td>
<td>PFI</td>
<td>500mg vial</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.3.3</td>
<td>Hydroxycarbamide (hydroxyurea)¹⁶⁵</td>
<td>Capsule</td>
<td>a) 250mg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

¹⁶² Eg. dried ferrous sulphate tablets 200mg

¹⁶³ Use periconceptually for prevention of first occurrence of neural tube defects

¹⁶⁴ Use cyanocobalamin (vit B₁₂) tablet 1mg as the preferred alternative (if available)

¹⁶⁵ Previously called hydroxyurea; use in management of sickle-cell disease
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td>BLOOD PRODUCTS of HUMAN ORIGIN and PLASMA SUBSTITUTES</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>11.1 Blood and blood components</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>11.1.1</td>
<td>Plasma, fresh frozen</td>
<td></td>
<td></td>
<td>4</td>
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<tr>
<td>11.1.2</td>
<td>Platelets</td>
<td></td>
<td></td>
<td>4</td>
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<tr>
<td>11.1.3</td>
<td>Red blood cells</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>11.1.4</td>
<td>Whole blood</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>11.2 Plasma-derived medicines</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>11.2.1 Human immunoglobulins (Ig)</td>
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<tr>
<td>11.2.1.1</td>
<td>Anti-D (Rh0) Ig (human monoclonal)</td>
<td>PFI + diluent</td>
<td>750 IU/mL (2mL vial)(^{166})</td>
<td>4</td>
</tr>
<tr>
<td>11.2.1.2</td>
<td>Anti-rabies Ig (equine)</td>
<td>Injection</td>
<td>200 IU/mL (5mL vial)</td>
<td>2</td>
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<tr>
<td>11.2.1.3</td>
<td>Anti-tetanus Ig (human)</td>
<td>Injection</td>
<td>500 IU vial</td>
<td>4</td>
</tr>
<tr>
<td>Specialist List</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>11.2.1.4</td>
<td>Normal Ig(^{167})</td>
<td>Injection (IV) (100mL vial)</td>
<td>a) 5% protein solution b) 10% protein solution</td>
<td></td>
</tr>
<tr>
<td>11.2.2 Blood coagulation factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Specialist List</td>
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<tr>
<td>11.2.2.1</td>
<td>Coagulation factor VIII</td>
<td>PFI</td>
<td>500 IU vial</td>
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<tr>
<td>11.2.2.2</td>
<td>Coagulation factor IX</td>
<td>PFI</td>
<td>500 IU vial</td>
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<tr>
<td>11.3 Plasma substitutes</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>11.3.1</td>
<td>Polygeline(^{168})</td>
<td>IV infusion</td>
<td>3.5% (500mL pack)</td>
<td>4</td>
</tr>
<tr>
<td>12. CARDIOVASCULAR MEDICINES</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1 Antianginals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1.1</td>
<td>Carvedilol</td>
<td>Tablet</td>
<td>a) 6.25mg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 12.5mg</td>
<td>4</td>
</tr>
<tr>
<td>12.1.2</td>
<td>Glyceryl trinitrate</td>
<td>Tablet (sublingual)</td>
<td>500 micrograms</td>
<td>4</td>
</tr>
<tr>
<td>12.1.3</td>
<td>Isosorbide dinitrate</td>
<td>Tablet</td>
<td>20mg</td>
<td>4</td>
</tr>
<tr>
<td>12.2 Antiarrythmics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.2.1</td>
<td>Carvedilol</td>
<td>Tablet</td>
<td>a) 6.25mg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 12.5mg</td>
<td>4</td>
</tr>
<tr>
<td>12.2.2</td>
<td>Digoxin</td>
<td>Oral liquid(^{169})</td>
<td>50 micrograms/mL</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tablet</td>
<td>a) 62.5 micrograms</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 250 micrograms</td>
<td>4</td>
</tr>
<tr>
<td>12.2.3</td>
<td>Lidocaine HCl(^{170})</td>
<td>Injection</td>
<td>20mg/mL (5mL amp)</td>
<td>4</td>
</tr>
</tbody>
</table>

\(^{166}\) Contains 1,500 IU = 300 micrograms per 2mL vial when reconstituted  
\(^{167}\) Use for primary immune deficiency and Kawasaki disease  
\(^{168}\) Partially degraded gelatin  
\(^{169}\) Measure doses with graduated pipette provided  
\(^{170}\) Only for IV use in ICU; preservative-free
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.2.4</td>
<td>Verapamil HCl</td>
<td>Injection</td>
<td>a) 2.5mg/mL (2mL amp)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tablet</td>
<td>b) 80mg (scored)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Specialist List</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.2.5</td>
<td>Amiodarone HCl</td>
<td>Injection</td>
<td>50mg/mL (3mL amp)</td>
<td></td>
</tr>
<tr>
<td>12.2.6</td>
<td>Epinephrine (adrenaline)(^{172})</td>
<td>Injection</td>
<td>100 micrograms/mL (10mL amp) (as HCl or acid tartrate)</td>
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</tr>
<tr>
<td>12.3</td>
<td><strong>Antihypertensives</strong></td>
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</tr>
<tr>
<td>12.3.1</td>
<td>Amlodipine(^{173})</td>
<td>Tablet</td>
<td>5mg</td>
<td>4</td>
</tr>
<tr>
<td>12.3.2</td>
<td>Carvedilol</td>
<td>Tablet</td>
<td>a) 6.25mg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 12.5mg</td>
<td>4</td>
</tr>
<tr>
<td>12.3.3</td>
<td>Enalapril</td>
<td>Tablet</td>
<td>5mg (scored)(^{174})</td>
<td>4</td>
</tr>
<tr>
<td>12.3.4</td>
<td>Hydralazine HCl</td>
<td>PFI</td>
<td>a) 20mg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tablet</td>
<td>b) 25mg</td>
<td>4</td>
</tr>
<tr>
<td>12.3.5</td>
<td>Hydrochlorothiazide</td>
<td>Tablet (scored)</td>
<td>25mg</td>
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<td>12.3.6</td>
<td>Losartan</td>
<td>Tablet</td>
<td>50mg</td>
<td>4</td>
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<tr>
<td>12.3.7</td>
<td>Methyldopa(^{175})</td>
<td>Tablet</td>
<td>250mg</td>
<td>4</td>
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<tr>
<td></td>
<td><strong>Specialist List</strong></td>
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<td></td>
</tr>
<tr>
<td>12.3.8</td>
<td>Sodium nitroprusside</td>
<td>PFI</td>
<td>50mg ampoule</td>
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<tr>
<td>12.4</td>
<td><strong>Medicines used in heart failure</strong></td>
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<tr>
<td>12.4.1</td>
<td>Carvedilol</td>
<td>Tablet</td>
<td>a) 6.25mg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 12.5mg</td>
<td>4</td>
</tr>
<tr>
<td>12.4.2</td>
<td>Digoxin</td>
<td>Oral liquid(^{176})</td>
<td>50 micrograms/mL</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tablet</td>
<td>a) 62.5 micrograms</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 250 micrograms</td>
<td>4</td>
</tr>
<tr>
<td>12.4.3</td>
<td>Furosemide</td>
<td>a) Injection</td>
<td>10mg/mL (2mL amp)</td>
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<tr>
<td></td>
<td></td>
<td>b) Oral liquid [c]</td>
<td>20mg/5mL</td>
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<td>c) Tablet (scored)</td>
<td>40mg</td>
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<td>12.4.4</td>
<td>Hydrochlorothiazide</td>
<td>Tablet (scored)</td>
<td>25mg</td>
<td>4</td>
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<tr>
<td>12.4.5</td>
<td>Spironolactone</td>
<td>Tablet (scored)</td>
<td>25mg</td>
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<td><strong>Specialist List</strong></td>
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<td></td>
</tr>
<tr>
<td>12.4.6</td>
<td>Dopamine HCl(^{177})</td>
<td>Injection</td>
<td>40mg/mL (5mL vial)</td>
<td></td>
</tr>
</tbody>
</table>

\(^{171}\) Only for IV use in ICU

\(^{172}\) *Alert* Note the strength and presentation for this indication - equivalent to 0.01% or 1 in 10,000 - this is 1/10 of the strength of the other form of epinephrine (adrenaline) listed elsewhere; must be diluted for paediatric use

\(^{173}\) As besylate, maleate or mesylate

\(^{174}\) As hydrogen maleate

\(^{175}\) Only use for hypertension in pregnancy

\(^{176}\) Measure doses with graduated pipette provided
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.5 Antithrombotics</td>
<td></td>
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<tr>
<td>12.5.1 Antiplatelets</td>
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<tr>
<td>12.5.1.1 Aspirin</td>
<td>Tablet</td>
<td>75mg</td>
<td>4</td>
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<tr>
<td>12.5.1.2 Clopidogrel</td>
<td>Tablet</td>
<td>75mg</td>
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<td>12.6 Lipid-lowering agents</td>
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<tr>
<td>12.6.1 Atorvastatin</td>
<td>Tablet (scored)</td>
<td>20mg</td>
<td>4</td>
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</tr>
<tr>
<td>13. DERMATOLOGICALS (topical)</td>
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<tr>
<td>13.1 Antifungals</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>13.1.1 Clotrimazole</td>
<td>Cream</td>
<td>1% (15g)</td>
<td>1</td>
<td></td>
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<tr>
<td>13.1.2 Terbinafine HCl</td>
<td>Cream</td>
<td>1% (15g)</td>
<td>4</td>
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<tr>
<td>13.2 Anti-infectives</td>
<td></td>
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</tr>
<tr>
<td>13.2.1 Aciclovir</td>
<td>Cream</td>
<td>5% (5g)</td>
<td>3</td>
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<tr>
<td>13.2.2 Fusidic acid</td>
<td>Ointment</td>
<td>2% (15g)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>13.2.3 Silver sulphadiazine</td>
<td>Cream</td>
<td>1% (250g)</td>
<td>2</td>
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</tr>
<tr>
<td>13.3 Anti-inflammatories and antipruritics</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>13.3.1 Betamethasone</td>
<td>Ointment</td>
<td>0.1% (15g) (as valerate)</td>
<td>4</td>
<td></td>
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<tr>
<td>13.3.2 Crotamiton</td>
<td>Cream</td>
<td>10% (30g)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>13.3.3 Desonide</td>
<td>Gel</td>
<td>0.05% (60g)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>13.3.4 Hydrocortisone acetate</td>
<td>Ointment</td>
<td>1% (15g)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>13.3.5 Mometasone furoate</td>
<td>Ointment</td>
<td>0.1% (30g)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>13.4 Astringents</td>
<td>None selected</td>
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<td></td>
</tr>
<tr>
<td>13.5 Medicines affecting skin differentiation &amp; proliferation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.5.1 Benzoyl peroxide</td>
<td>Gel</td>
<td>5% (30g)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

---

177 Only for use in ICU
178 See also Section 10.2 Medicines affecting coagulation
179 Use only in high-risk patients; simvastatin may be used as an alternative
180 Use only for refractory infections
181 Use only for <10 days; sodium fusidate cream 2% may also be available/used
182 Use only in patients >2mths
183 Use only for prevention of local infection in performing dialysis procedures
184 Avoid use in neonates (hydrocortisone cream preferred)
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.5.2</td>
<td>Coal tar + salicylic acid</td>
<td>Ointment</td>
<td>2% + 2% (100g)</td>
<td>4</td>
</tr>
<tr>
<td>13.5.3</td>
<td>Podophyllum resin</td>
<td>Solution (in benzoin tincture)</td>
<td>15% (15mL)</td>
<td>3</td>
</tr>
</tbody>
</table>

### 13.6 Scabies and pediculocides

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.6.1</td>
<td>Benzyl benzoate</td>
<td>Lotion</td>
<td>25% 185 (50mL)</td>
<td>2</td>
</tr>
<tr>
<td>13.6.2</td>
<td>Crotamiton</td>
<td>Cream</td>
<td>10% (30g)</td>
<td>2</td>
</tr>
<tr>
<td>13.6.3</td>
<td>Ivermectin</td>
<td>Tablet (scored)</td>
<td>6mg</td>
<td>4</td>
</tr>
</tbody>
</table>

### 13.7 Medicines for jiggers 186

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.7.1</td>
<td>Benzyl benzoate</td>
<td>Lotion</td>
<td>25% (50mL)</td>
<td>2</td>
</tr>
<tr>
<td>13.7.2</td>
<td>White soft paraffin 187</td>
<td>Topical application</td>
<td>100%</td>
<td>2</td>
</tr>
</tbody>
</table>

### 13.8 Sunscreen preparation

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.8.1</td>
<td>Sunscreening agent/s 188</td>
<td>Cream or lotion</td>
<td>UVB-SPF 30+</td>
<td>1</td>
</tr>
</tbody>
</table>

### 14. DIAGNOSTIC AGENTS

#### 14.1 Ophthalmic diagnostics

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1.1</td>
<td>Fluorescein</td>
<td>Test strip</td>
<td>0.6mg</td>
<td>4</td>
</tr>
<tr>
<td>14.1.2</td>
<td>Tropicamide</td>
<td>Eye drops</td>
<td>1%</td>
<td>4</td>
</tr>
</tbody>
</table>

#### 14.2 Radiocontrast media 189

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2.1</td>
<td>Amidotrizoate</td>
<td>Injection (solution for IV infusion)</td>
<td>140-420mg iodine/mL (as sodium or meglumine salt)</td>
<td>1</td>
</tr>
<tr>
<td>14.2.2</td>
<td>Barium sulphate</td>
<td>Suspension (aq)</td>
<td>20-200%</td>
<td>1</td>
</tr>
<tr>
<td>14.2.3</td>
<td>Iohexol</td>
<td>Injection (solution for IV infusion)</td>
<td>140-350mg iodine/mL</td>
<td>1</td>
</tr>
<tr>
<td>14.2.4</td>
<td>Iopromide</td>
<td>Injection (solution for IV infusion)</td>
<td>150-370mg iodine/mL</td>
<td>1</td>
</tr>
<tr>
<td>14.2.5</td>
<td>Meglumine iotroxate</td>
<td>Injection (solution for IV infusion)</td>
<td>5g iodine in 100mL bottle</td>
<td>1</td>
</tr>
</tbody>
</table>

#### 14.3 MRI contrast media 191

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.3.1</td>
<td>Gadobutrol</td>
<td>IV injection solution</td>
<td>1 mmol/mL 192</td>
<td>1</td>
</tr>
<tr>
<td>14.3.2</td>
<td>Gadodiamide</td>
<td>IV injection solution</td>
<td>0.5 mmol/mL 193</td>
<td>1</td>
</tr>
</tbody>
</table>

---

185 Adult strength: dilute with equal volume of water to obtain 12.5% for paediatric use
186 Tunga penetrans infestation; use both medicines in combination therapy
187 Also called petroleum jelly or white petrolatum
188 Must protect against both UVA and UVB; various preparations may be available
189 Required presentations to be selected by the radiologist
190 Equivalent to 105mg/mL
191 Required presentations to be selected by the radiologist
192 Equivalent to 604.72mg/mL
### 15. ANTISEPTICS and DISINFECTANTS

#### 15.1 Antiseptics

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.3.3</td>
<td><strong>Gadopentate dimeglumine</strong></td>
<td>IV injection (solution)</td>
<td>0.5 mmol/mL</td>
<td>2</td>
</tr>
</tbody>
</table>

#### 15.2 Disinfectants

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.2.1</td>
<td>Alcohol-based hand rub</td>
<td>Solution</td>
<td>Isopropyl alcohol 75% (500mL dispenser)</td>
<td>1</td>
</tr>
<tr>
<td>15.2.2</td>
<td><strong>Glutaraldehyde</strong></td>
<td>Solution</td>
<td>2%</td>
<td>2</td>
</tr>
<tr>
<td>15.2.3</td>
<td>Sodium hypochlorite</td>
<td>Solution</td>
<td>4-6% chlorine</td>
<td>1</td>
</tr>
</tbody>
</table>

### 16. DIURETICS

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.1</td>
<td><strong>Amiloride HCl</strong></td>
<td>Tablet</td>
<td>5mg</td>
<td>4</td>
</tr>
<tr>
<td>16.2</td>
<td><strong>Furosemide</strong></td>
<td>a) Injection</td>
<td>10mg/mL (2mL amp)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Oral liquid</td>
<td>20mg/5mL</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) Tablet (scored)</td>
<td>40mg</td>
<td>4</td>
</tr>
<tr>
<td>16.3</td>
<td><strong>Hydrochlorothiazide</strong></td>
<td>Tablet (scored)</td>
<td>25mg</td>
<td>4</td>
</tr>
<tr>
<td>16.4</td>
<td>Mannitol</td>
<td>Injection solution</td>
<td>20%</td>
<td>4</td>
</tr>
<tr>
<td>16.5</td>
<td><strong>Spironolactone</strong></td>
<td>Tablet</td>
<td>25mg</td>
<td>4</td>
</tr>
</tbody>
</table>

**Specialist List [c]**

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.6</td>
<td><strong>Hydrochlorothiazide</strong></td>
<td>Tablet (scored)</td>
<td>25mg</td>
<td>4</td>
</tr>
<tr>
<td>16.7</td>
<td><strong>Spironolactone</strong></td>
<td>Tablet</td>
<td>25mg</td>
<td>4</td>
</tr>
<tr>
<td>16.8</td>
<td>Mannitol</td>
<td>Injection solution</td>
<td>20%</td>
<td>4</td>
</tr>
</tbody>
</table>

### 17. GASTROINTESTINAL MEDICINES

#### 17.1 Antacids and other antiulcer medicines

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.1.1</td>
<td>Lansoprazole [c]</td>
<td>Dispersible tablet</td>
<td>15mg</td>
<td>4</td>
</tr>
<tr>
<td>17.1.2</td>
<td>Omeprazole</td>
<td>a) Capsule</td>
<td>20mg</td>
<td>4</td>
</tr>
</tbody>
</table>

---

193 Equivalent to 287mg/mL
194 Equivalent to 469.01mg/mL
195 Use only for umbilical cord care; ensure that it is not mistakenly used as an eye ointment
196 Previously called glutaraldehyde
197 Use within 6 months of date of manufacture; use only freshly made dilutions
198 Provides approximately 50,000 ppm available chlorine
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.1.2</td>
<td>Omeprazole</td>
<td>b) PFI (as sod. salt)</td>
<td>40mg vial</td>
<td>4</td>
</tr>
</tbody>
</table>

### 17.2 Antiemetics

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.2.1</td>
<td>Dexamethasone</td>
<td>Injection</td>
<td>4mg/1mL amp (as sodium phosphate)</td>
<td>4</td>
</tr>
<tr>
<td>17.2.2</td>
<td>Domperidone&lt;sup&gt;199&lt;/sup&gt;</td>
<td>a) Oral liquid</td>
<td>5mg/5mL</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet</td>
<td>10mg</td>
<td>4</td>
</tr>
<tr>
<td>17.2.3</td>
<td>Metoclopramide HC&lt;sup&gt;200&lt;/sup&gt;</td>
<td>a) Injection</td>
<td>5mg/mL (2mL amp)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet</td>
<td>10mg</td>
<td>2</td>
</tr>
<tr>
<td>17.2.4</td>
<td>Ondansetron&lt;sup&gt;201&lt;/sup&gt;</td>
<td>a) Injection</td>
<td>2mg/mL (base, as HCl)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet</td>
<td>4mg (base equivalent)</td>
<td>4</td>
</tr>
</tbody>
</table>

**Specialist List**

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.2.5</td>
<td>Dexamethasone</td>
<td>Tablet</td>
<td>500 micrograms</td>
<td></td>
</tr>
</tbody>
</table>

### 17.3 Anti-inflammatories

**Specialist List**

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.3.1</td>
<td>Mesalazine</td>
<td>Tablet (e/c)</td>
<td>400mg</td>
<td></td>
</tr>
<tr>
<td>17.3.2</td>
<td>Prednisolone</td>
<td>Tablet</td>
<td>5mg</td>
<td></td>
</tr>
</tbody>
</table>

### 17.4 Laxative

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.4.1</td>
<td>Bisacodyl</td>
<td>a) Tablet</td>
<td>5mg</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Suppository</td>
<td>10mg</td>
<td>4</td>
</tr>
</tbody>
</table>

### 17.5 Medicines used in diarrhoea

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.5.1</td>
<td>Oral rehydration solution (ORS)</td>
<td>PFOL (sachet for 500mL)</td>
<td>WHO low-osmolality formula</td>
<td>1</td>
</tr>
<tr>
<td>17.5.2</td>
<td>ORS + zinc sulphate</td>
<td>Co-pack (4 sachets + 10 tablets)</td>
<td>500mL sachets + zinc sulphate tab 20mg (dispersible)</td>
<td>2</td>
</tr>
<tr>
<td>17.5.3</td>
<td>Rehydration solution for malnutrition (ReSoMal)</td>
<td>PFOL (sachet for 1L)</td>
<td>WHO formula</td>
<td>4</td>
</tr>
<tr>
<td>17.5.4</td>
<td>Zinc sulphate&lt;sup&gt;202&lt;/sup&gt;</td>
<td>Tablet (dispersible)</td>
<td>20mg</td>
<td>2</td>
</tr>
</tbody>
</table>

---

<sup>199</sup> Alternative in patients who cannot tolerate metoclopramide and in young children requiring an oral liquid antiemetic; additional restrictions apply (small increased cardiac toxicity risk)

<sup>200</sup> Do not use in neonates

<sup>201</sup> Use only in patients >1 month

<sup>202</sup> Use with ORS in acute diarrhoea
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.</td>
<td><strong>HORMONES, other ENDOCRINE MEDICINES and CONTRACEPTIVES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.1</td>
<td>Adrenal hormones and synthetic substitutes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.1.1</td>
<td>Fludrocortisone acetate</td>
<td>Tablet</td>
<td>100 micrograms</td>
<td></td>
</tr>
<tr>
<td>18.1.2</td>
<td>Hydrocortisone</td>
<td>Tablet</td>
<td>5mg</td>
<td></td>
</tr>
<tr>
<td>18.2</td>
<td>Androgens</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.2.1</td>
<td>Testosterone</td>
<td>Gel</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>18.3</td>
<td>Contraceptives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.3.1</td>
<td>Oral hormonal contraceptives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.3.1.1</td>
<td>Ethinylestradiol + levonorgestrel</td>
<td>Tablet</td>
<td>30 micrograms + 150 micrograms</td>
<td>2</td>
</tr>
<tr>
<td>18.3.1.2</td>
<td>Levonorgestrel</td>
<td>Tablet</td>
<td>30 micrograms</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>For emergency contraception</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.3.1.3</td>
<td>Levonorgestrel</td>
<td>Tablet</td>
<td>750 micrograms (pack of 2)</td>
<td>1</td>
</tr>
<tr>
<td>18.3.2</td>
<td>Injectable hormonal contraceptives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.3.2.1</td>
<td>Estradiol cypionate + medroxyprogesterone acetate</td>
<td>Injection</td>
<td>5mg + 25mg</td>
<td>2</td>
</tr>
<tr>
<td>18.3.2.2</td>
<td>Medroxyprogesterone acetate (DMPA)(^{203})</td>
<td>a) Depot injection (IM)</td>
<td>150mg/1mL (prefilled syringe)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Depot injection (SC)(^{204})</td>
<td>104mg/0.65ml (prefilled syringe)</td>
<td>2</td>
</tr>
<tr>
<td>18.3.3</td>
<td>Intrauterine devices (IUD)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.3.3.1</td>
<td>Copper-containing device(^{205})</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>18.3.3.2</td>
<td>Levonorgestrel (LNG)</td>
<td>LNG-releasing Intrauterine system (LNG-IUS)</td>
<td>Reservoir with 52mg</td>
<td>2</td>
</tr>
<tr>
<td>18.3.4</td>
<td>Barrier methods</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.3.4.1</td>
<td>Male condom</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>18.3.4.2</td>
<td>Female condom</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>18.3.5</td>
<td>Contraceptive implants(^{206})</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.3.5.1</td>
<td>Etonorgestrel-releasing</td>
<td>Implant</td>
<td>68mg (1 rod)</td>
<td>2</td>
</tr>
<tr>
<td>18.3.5.2</td>
<td>Levonorgestrel-releasing</td>
<td>Implant</td>
<td>150mg (2 x 75mg rods)</td>
<td>2</td>
</tr>
</tbody>
</table>

\(^{203}\) May be used at Level 1 (Community) in areas with community midwife services

\(^{204}\) May be referred to as DMPA-SC

\(^{205}\) Different registered preparations may be available

\(^{206}\) May be used at Level 1 (Community) in areas with community midwife services
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.3.6.1</td>
<td>Progesterone-releasing</td>
<td>Vaginal ring</td>
<td>2.074g (micronized)</td>
<td>2</td>
</tr>
<tr>
<td>18.4.1</td>
<td>Conjugated oestrogens</td>
<td>Tablet</td>
<td>300 micrograms</td>
<td></td>
</tr>
<tr>
<td>18.5.1</td>
<td>Glibenclamide</td>
<td>Tablet</td>
<td>5mg</td>
<td>4</td>
</tr>
<tr>
<td>18.5.2</td>
<td>Gliclazide</td>
<td>Tablet</td>
<td>40mg</td>
<td>4</td>
</tr>
<tr>
<td>18.5.3</td>
<td>Insulin, intermediate-acting (human)</td>
<td>Injection</td>
<td>100 IU/mL (10mL vial)</td>
<td>4</td>
</tr>
<tr>
<td>18.5.4</td>
<td>Insulin, soluble (human)</td>
<td>Injection</td>
<td>100 IU/mL (10mL vial)</td>
<td>4</td>
</tr>
<tr>
<td>18.5.5</td>
<td>Metformin HCl</td>
<td>Tablet</td>
<td>500mg</td>
<td>4</td>
</tr>
<tr>
<td>18.5.5</td>
<td>Insulin, rapid acting</td>
<td>Injection</td>
<td>100 IU/mL (10mL vial)</td>
<td></td>
</tr>
<tr>
<td>18.5.6</td>
<td>Metformin HCl</td>
<td>Tablet</td>
<td>500mg</td>
<td></td>
</tr>
<tr>
<td>18.6.1</td>
<td>Clomifene citrate</td>
<td>Tablet</td>
<td>50mg</td>
<td></td>
</tr>
<tr>
<td>18.7.1</td>
<td>Medroxyprogesterone</td>
<td>Tablet</td>
<td>5mg (acetate)</td>
<td></td>
</tr>
<tr>
<td>18.8.1</td>
<td>Carbimazole</td>
<td>Tablet</td>
<td>5mg</td>
<td>4</td>
</tr>
<tr>
<td>18.8.2</td>
<td>Levothyroxine sodium</td>
<td>Tablet</td>
<td>(a) 25 micrograms [c]</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(b) 50 micrograms</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(c) 100 micrograms</td>
<td>4</td>
</tr>
<tr>
<td>18.8.3</td>
<td>Lugol’s iodine [c]</td>
<td>Oral liquid</td>
<td>~130mg total iodine/mL</td>
<td></td>
</tr>
<tr>
<td>18.8.4</td>
<td>Propylthiouracil</td>
<td>Tablet</td>
<td>50mg</td>
<td></td>
</tr>
</tbody>
</table>

207 For use in women actively breastfeeding (ie. at least 4 times daily)
208 Do not use for patients >60 years
209 Use only in patients >60 years
210 As biphasic isophane insulin (70% isophane insulin + 30% soluble insulin)
211 Use insulin lispro, insulin aspart or insulin glulisine with selection being made based on local availability and relative cost
212 Use as drug of choice (ie. rather than carbimazole) during 1st trimester of pregnancy and in lowest effective dose to control hyperthyroid state
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>18.9 Other endocrine medicines</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Specialist List</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.9.1</td>
<td>Bromocriptine</td>
<td>Tablet (scored)</td>
<td>2.5mg (as mesilate)</td>
<td></td>
</tr>
<tr>
<td><strong>19. IMMUNOLOGICALS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>19.1 Diagnostic agents</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.1.1</td>
<td>Tuberculin, purified protein derivative (PPD)</td>
<td>Injection (solution)</td>
<td>0.1mL vial (single dose)</td>
<td>4</td>
</tr>
<tr>
<td><strong>19.2 Sera and immunoglobulins</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.2.1</td>
<td>Snake antivenom immunoglobulin</td>
<td>PFI + diluent (for IV use)</td>
<td>10mL vial</td>
<td>2</td>
</tr>
<tr>
<td><strong>19.3 Vaccines</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recommended for all</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.3.1</td>
<td>BCG vaccine (live attenuated)</td>
<td>PFI + diluent</td>
<td>1mL vial (10 doses)</td>
<td>2</td>
</tr>
<tr>
<td>19.3.2</td>
<td>DPT + HiB + HepB vaccine (pentavalent)</td>
<td>Injection (suspension)</td>
<td>5mL vial (10 doses)</td>
<td>2</td>
</tr>
<tr>
<td>19.3.3</td>
<td>HPV vaccine (2-valent)</td>
<td>Injection (suspension)</td>
<td>1mL vial (2 doses)</td>
<td>2</td>
</tr>
<tr>
<td>19.3.4</td>
<td>Measles vaccine (live attenuated)</td>
<td>PFI + diluent</td>
<td>5mL vial (10 doses)</td>
<td>2</td>
</tr>
<tr>
<td>19.3.5</td>
<td>Measles + rubella vaccine (MR)</td>
<td>PFI + diluent</td>
<td>5mL vial (10 doses)</td>
<td>2</td>
</tr>
<tr>
<td>19.3.6</td>
<td>Polio vaccine (IPV)</td>
<td>Injection</td>
<td>5mL vial (10 doses)</td>
<td>2</td>
</tr>
<tr>
<td>19.3.7</td>
<td>Polio vaccine, oral (OPV) (live attenuated)</td>
<td>Oral drops</td>
<td>2mL vial (20 doses)</td>
<td>2</td>
</tr>
<tr>
<td>19.3.8</td>
<td>Rotavirus vaccine</td>
<td>Oral suspension</td>
<td>1.5mL (single dose)</td>
<td>2</td>
</tr>
<tr>
<td>19.3.9</td>
<td>Tetanus toxoid (adsorbed)</td>
<td>Injection (suspension)</td>
<td>20mL vial (10 doses)</td>
<td>2</td>
</tr>
<tr>
<td>Recommended for certain high-risk populations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.3.10</td>
<td>Cholera vaccine</td>
<td>Oral suspension</td>
<td>1.5mL vial (single dose)</td>
<td>2</td>
</tr>
</tbody>
</table>

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213 Use for prevention or suppression of lactation
214 For Mantoux test
215 2TU/0.1mL
216 Minimum of 11 species mixture covering *Bitis, Naja, Echis, Dendroaspis* spp
217 Dose: adults 0.1mL, child <1 year 0.05mL
218 Human papillomavirus vaccine; for school health programme roll-out
219 Being phased out globally and in Kenya replaced by MR vaccine in the routine vaccination programme
220 >40 IU/0.5mL dose
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.3.11</td>
<td>Hepatitis B vaccine (adult)²²²</td>
<td>Injection (suspension)</td>
<td>1mL vial (single dose)</td>
<td>4</td>
</tr>
<tr>
<td>19.3.12</td>
<td>Meningococcal meningitis vaccine²²³</td>
<td>PFI + diluent</td>
<td>0.5mL vial (single dose)</td>
<td>2</td>
</tr>
<tr>
<td>19.3.13</td>
<td>Pneumococcal vaccine (10-valent ads. conjugate)</td>
<td>Injection (suspension)</td>
<td>1mL vial (2 doses)</td>
<td>2</td>
</tr>
<tr>
<td>19.3.14</td>
<td>Rabies vaccine (cell culture)²²⁴</td>
<td>PFI + diluent</td>
<td>0.5mL vial (single dose)²²⁵</td>
<td>2</td>
</tr>
<tr>
<td>19.3.15</td>
<td>Typhoid vaccine²²⁶</td>
<td>Injection (solution)</td>
<td>0.5mL vial (single dose)</td>
<td>2</td>
</tr>
<tr>
<td>19.3.16</td>
<td>Varicella vaccine²²⁷</td>
<td>PFI + diluent</td>
<td>0.5mL vial (single dose)</td>
<td>4</td>
</tr>
<tr>
<td>19.3.17</td>
<td>Yellow fever vaccine²²⁸</td>
<td>PFI + diluent</td>
<td>10mL vial (20 doses)²²⁹</td>
<td>2</td>
</tr>
<tr>
<td>19.3.18</td>
<td>Pneumococcal vaccine (23-valent adsorbed conjugate)²³⁰</td>
<td>Injection (suspension)</td>
<td>0.5mL vial (single dose)</td>
<td></td>
</tr>
</tbody>
</table>

**Specialist List**

20. **MUSCLE RELAXANTS (PERIPHERALLY-ACTING) and CHOLINESTERASE INHIBITORS**

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.1</td>
<td>Atracurium besilate</td>
<td>Injection</td>
<td>10mg/mL (5mL amp)</td>
<td>4</td>
</tr>
<tr>
<td>20.2</td>
<td>Cisatracurium</td>
<td>Injection (as besilate)</td>
<td>2mg/mL (10mL vial)</td>
<td>4</td>
</tr>
<tr>
<td>20.3</td>
<td>Glycopyrronium bromide + neostigmine metilsulfate²³¹</td>
<td>Injection</td>
<td>500 micrograms + 2.5mg/1mL amp</td>
<td>4</td>
</tr>
<tr>
<td>20.4</td>
<td>Neostigmine metilsulfate</td>
<td>Injection</td>
<td>2.5mg/1mL amp</td>
<td>4</td>
</tr>
<tr>
<td>20.5</td>
<td>Pancuronium bromide</td>
<td>Injection</td>
<td>2mg/mL (2mL amp)</td>
<td>4</td>
</tr>
<tr>
<td>20.6</td>
<td>Suxamethonium chloride</td>
<td>Injection</td>
<td>50mg/mL (2mL amp)</td>
<td>4</td>
</tr>
</tbody>
</table>

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²²¹ Use only in management of outbreaks
²²² Use mainly for health providers and their dependants; contains 20 micrograms antigen protein/1mL dose
²²³ Sero-type specific; use for outbreaks, asplenic patients & travellers to affected areas
²²⁴ Human diploid type may also be available & used as a more expensive alternative
²²⁵ Rabies antigen ≥ 2.5 IU/0.5 mL dose when reconstituted as a suspension
²²⁶ Use reserved for specific at risk patients, ie. nephrotics, immunosuppressed patients, travellers to typhoid prevalent areas
²²⁷ Also called chickenpox vaccine
²²⁸ Use only for health-workers during outbreaks & travellers to areas with yellow fever
²²⁹ Contains 1,000 LD50 units/0.5mL dose
²³⁰ Use for patients with sickle-cell disease
²³¹ Use only for reversal of neuromuscular blockade
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.</td>
<td><strong>OPHTHALMOLOGICALS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.1</td>
<td><strong>Anti-infectives</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.1.1</td>
<td>Gentamicin</td>
<td>Eye drops</td>
<td>0.3% (as sulfate)</td>
<td>2</td>
</tr>
<tr>
<td>21.1.2</td>
<td>Tetracycline HCl</td>
<td>Eye ointment</td>
<td>1%</td>
<td>1</td>
</tr>
<tr>
<td>Specialist List</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.1.3</td>
<td>Aciclovir</td>
<td>Eye ointment</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>21.1.4</td>
<td>Azithromycin dihydrate</td>
<td>Eye drops</td>
<td>1.5%</td>
<td></td>
</tr>
<tr>
<td>21.1.5</td>
<td>Ciprofloxacin</td>
<td>Eye drops</td>
<td>0.3% (as HCl)</td>
<td></td>
</tr>
<tr>
<td>21.1.6</td>
<td>Econazole</td>
<td>Eye drops</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>21.2</td>
<td><strong>Anti-inflammatories</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.2.1</td>
<td>Prednisolone</td>
<td>a) Eye drops</td>
<td>0.5% (sod. phosphate)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet</td>
<td>5mg</td>
<td>4</td>
</tr>
<tr>
<td>Specialist List</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.2.2</td>
<td>Prednisolone</td>
<td>Eye drops</td>
<td>1% (acetate)</td>
<td></td>
</tr>
<tr>
<td>21.2.3</td>
<td>Ketorolac trometamol</td>
<td>Eye drops</td>
<td>0.5%</td>
<td></td>
</tr>
<tr>
<td>21.2.4</td>
<td>Methylprednisolone</td>
<td>PFI</td>
<td>1g vial (as sodium succinate)</td>
<td></td>
</tr>
<tr>
<td>21.2.5</td>
<td>Triamcinolone acetonide</td>
<td>Injection (aq.suspension)</td>
<td>40mg/1mL amp</td>
<td></td>
</tr>
<tr>
<td>21.3</td>
<td><strong>Local anaesthetic</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.3.1</td>
<td>Tetracaine HCl</td>
<td>Eye drops</td>
<td>0.5%</td>
<td>4</td>
</tr>
<tr>
<td>21.4</td>
<td><strong>Miotics and anti-glaucoma medicines</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.4.1</td>
<td>Acetazolamide</td>
<td>Tablet</td>
<td>250mg</td>
<td>4</td>
</tr>
<tr>
<td>21.4.2</td>
<td>Timolol</td>
<td>Eye drops</td>
<td>0.5% (as hyd. maleate)</td>
<td>4</td>
</tr>
<tr>
<td>Specialist List</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.4.3</td>
<td>Dorzolamide</td>
<td>Eye drops</td>
<td>2% (as HCl)</td>
<td>4</td>
</tr>
<tr>
<td>21.4.4</td>
<td>Latanoprost</td>
<td>Eye drops</td>
<td>0.005%</td>
<td>4</td>
</tr>
<tr>
<td>21.5</td>
<td><strong>Cycloplegics and mydriatics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.5.1</td>
<td>Atropine sulfate</td>
<td>Eye drops</td>
<td>0.5%</td>
<td>4</td>
</tr>
<tr>
<td>21.5.2</td>
<td>Tropicamide</td>
<td>Eye drops</td>
<td>0.5%</td>
<td>4</td>
</tr>
<tr>
<td>21.6</td>
<td><strong>Anti-allergics</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.6.1</td>
<td>Sodium cromoglicate</td>
<td>Eye drops</td>
<td>2%</td>
<td>4</td>
</tr>
<tr>
<td>21.7</td>
<td><strong>Anti-vascular endothelial growth factor (VEGF)</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Specialist List</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.7.1</td>
<td>Bevacizumab</td>
<td>Injection</td>
<td>25mg/mL (4mL vial)</td>
<td></td>
</tr>
</tbody>
</table>

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232 Use as a depot
233 Previously called amethocaine; do not use in pre-term neonates
234 50 micrograms/mL
235 Only use in patients >3 months
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td><strong>OXYTOCICS and ANTIOXYTOCICS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.1 Oxytocics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.1.1 Dinoprostone (Prostaglandin E₂)</td>
<td>Vaginal tablet</td>
<td>3mg</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>22.1.2 Ergometrine&lt;sup&gt;236&lt;/sup&gt;</td>
<td>Injection</td>
<td>200 micrograms/1mL amp</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>22.1.3 Misoprostol&lt;sup&gt;237&lt;/sup&gt;</td>
<td>a) Tablet&lt;sup&gt;238&lt;/sup&gt;</td>
<td>200 micrograms</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Vaginal tablet&lt;sup&gt;239&lt;/sup&gt;</td>
<td>25 micrograms</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>22.1.4 Oxytocin</td>
<td>Injection</td>
<td>10 IU/1mL amp</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Specialist List</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.1.5 Mifepristone + misoprostol&lt;sup&gt;240&lt;/sup&gt;</td>
<td>Tablet</td>
<td>200mg + 200 micrograms</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>22.2 Anti-oxytocics (tocolytics)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.2.1 Nifedipine</td>
<td>Capsule</td>
<td>10mg (immediate-release)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td><strong>DIALYSIS SOLUTIONS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23.1 Intraperitoneal dialysis solutions (CAPD)&lt;sup&gt;241&lt;/sup&gt;</td>
<td>Parenteral solutions</td>
<td>Of appropriate composition&lt;sup&gt;242&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23.2.2 Haemodialysis solutions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td><strong>MEDICINES for MENTAL and BEHAVIOURAL DISORDERS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24.1 Antipsychotics</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24.1.1 Chlorpromazine HCl</td>
<td>Injection</td>
<td>a) 25mg/mL (2mL amp)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tablet</td>
<td>b) 50mg</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>c) 100mg</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>24.1.2 Flupentixol decanoate</td>
<td>Injection (oily, depot)</td>
<td>20mg/mL (2mL amp)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>24.1.3 Fluphenazine decanoate</td>
<td>Injection (oily, depot)</td>
<td>25mg/1mL amp</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>24.1.4 Haloperidol</td>
<td>a) Injection</td>
<td>5mg/1mL amp</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Oral liquid&lt;sup&gt;243&lt;/sup&gt;</td>
<td>2mg/mL</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

<sup>236</sup> As hydrogen maleate; ensure protection from light (amber ampoules, dark storage)
<sup>237</sup> Use with caution due to narrow safety margin
<sup>238</sup> May be used at Level 1 (Community) in areas with community midwife services
<sup>239</sup> Use only for induction of labour
<sup>240</sup> Use only under close supervision
<sup>241</sup> Continuous ambulatory peritoneal dialysis (fluid)
<sup>242</sup> Various dialysis solutions & systems are available & in use; selection of the most appropriate presentations will be made by specialists
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.1.4</td>
<td>Haloperidol</td>
<td>c) Tablet (scored)</td>
<td>5mg</td>
<td>4</td>
</tr>
<tr>
<td>24.1.5</td>
<td>Olanzapine&lt;sup&gt;244&lt;/sup&gt;</td>
<td>PFI</td>
<td>10mg vial</td>
<td>4</td>
</tr>
<tr>
<td>24.1.6</td>
<td>Quetiapine</td>
<td>Tablet</td>
<td>200mg (scored)</td>
<td>4</td>
</tr>
<tr>
<td>24.1.7</td>
<td>Zuclopenthixol acetate</td>
<td>a) Injection (oily)</td>
<td>50mg/mL (2mL amp)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Injection (depot, oily)&lt;sup&gt;245&lt;/sup&gt;</td>
<td>200mg/1mL amp</td>
<td>4</td>
</tr>
<tr>
<td><strong>Specialist List</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24.1.7</td>
<td>Chlorpromazine HCl&lt;sup&gt;[c]&lt;/sup&gt;</td>
<td>Injection</td>
<td>25mg/mL (2mL amp)</td>
<td></td>
</tr>
<tr>
<td>24.1.8</td>
<td>Clozapine</td>
<td>Tablet (scored)</td>
<td>a) 25mg</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 100mg</td>
<td></td>
</tr>
<tr>
<td>24.1.9</td>
<td>Haloperidol&lt;sup&gt;[c]&lt;/sup&gt;</td>
<td>a) Injection</td>
<td>5mg/1mL amp</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Tablet (scored)</td>
<td>5mg</td>
<td></td>
</tr>
<tr>
<td>24.1.10</td>
<td>Risperidone</td>
<td>Tablet</td>
<td>2mg (scored)</td>
<td></td>
</tr>
</tbody>
</table>

**24.2 Medicines used in mood disorders**

**24.2.1 Medicines use in depressive disorders**

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.2.1.1</td>
<td>Amitriptyline HCl</td>
<td>Tablet</td>
<td>25mg</td>
<td>4</td>
</tr>
<tr>
<td>24.2.1.2</td>
<td>Fluoxetine</td>
<td>Tablet (scored)</td>
<td>20mg (as HCl)</td>
<td>4</td>
</tr>
<tr>
<td><strong>Specialist List</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24.2.1.3</td>
<td>Fluoxetine&lt;sup&gt;246&lt;/sup&gt;&lt;sup&gt;[c]&lt;/sup&gt;</td>
<td>Tablet (scored)</td>
<td>20mg (as HCl)</td>
<td></td>
</tr>
<tr>
<td>24.2.1.4</td>
<td>Venlafaxine</td>
<td>Capsule</td>
<td>75mg (as HCl)</td>
<td></td>
</tr>
</tbody>
</table>

**24.2.2 Medicines used in bipolar disorders**

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.2.2.1</td>
<td>Carbamazepine</td>
<td>Tablet</td>
<td>200mg (cross-scored)</td>
<td>4</td>
</tr>
<tr>
<td>24.2.2.2</td>
<td>Valproic acid (sodium valproate)</td>
<td>Tablet (enteric-coated)</td>
<td>a) 200mg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 500mg</td>
<td></td>
</tr>
<tr>
<td><strong>Specialist List</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24.2.2.2</td>
<td>Lithium carbonate</td>
<td>Tablet</td>
<td>400mg (modified release)</td>
<td></td>
</tr>
</tbody>
</table>

**24.3 Medicines used in anxiety disorders**

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.3.1</td>
<td>Bromazepam&lt;sup&gt;247&lt;/sup&gt;</td>
<td>Tablet (scored)</td>
<td>3mg</td>
<td>4</td>
</tr>
</tbody>
</table>

**24.4 Medicines used in obsessive compulsive disorders**

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.4.1</td>
<td>Clomipramine HCl</td>
<td>Capsule</td>
<td>25mg</td>
<td>4</td>
</tr>
</tbody>
</table>

**24.5 Medicine used in disorders due to psychoactive substance abuse**

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.5.1</td>
<td>Diazepam&lt;sup&gt;248&lt;/sup&gt;</td>
<td>Tablet</td>
<td>5mg</td>
<td>4</td>
</tr>
</tbody>
</table>

<sup>243</sup> Drops with dosing pipette  
<sup>244</sup> Use only in patients refractory to, or intolerant of, 1<sup>st</sup> generation antipsychotics  
<sup>245</sup> Use only in patients refractory to, or unable to tolerate, other antipsychotics  
<sup>246</sup> Only use in patients >8 years  
<sup>247</sup> Only use in anxiety with agitation  
<sup>248</sup> Only use in management of alcohol dependence
### 24.5.2 Nicotine

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chewing gum</td>
<td>a) 2mg</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) 4mg</td>
<td>4</td>
</tr>
</tbody>
</table>

### Specialist List

<table>
<thead>
<tr>
<th>24.5.3 B vitamins, high potency</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Injection IM</td>
</tr>
<tr>
<td>b) Injection IV</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>24.5.4 Buprenorphine + naloxone (both as HCl)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Tablet (sublingual)</td>
</tr>
<tr>
<td>b) 8mg + 2mg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>24.5.5 Methadone HCl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral liquid</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>24.5.6 Naltrexone HCl</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
</tr>
</tbody>
</table>

### 24.6 Medicine used in attention deficit hyperactivity disorder (ADHD)

<table>
<thead>
<tr>
<th>24.6.1 Methylphenidate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
</tr>
</tbody>
</table>

### 25. MEDICINES for RESPIRATORY DISORDERS

#### 25.1 Anti-asthmatics and medicines for chronic obstructive pulmonary disease

<table>
<thead>
<tr>
<th>25.1.1 Beclometasone dipropionate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation (aerosol)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>25.1.2 Epinephrine (adrenaline)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injection</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>25.1.3 Salbutamol (as sulphate)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Inhalation (aerosol)</td>
</tr>
<tr>
<td>b) Injection</td>
</tr>
<tr>
<td>c) Nebuliser solution</td>
</tr>
</tbody>
</table>

### Specialist List

<table>
<thead>
<tr>
<th>25.1.5 Formoterol fumarate + budesonide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry powder inhaler</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>25.1.6 Ipratropium bromide</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Inhalation (aerosol)</td>
</tr>
<tr>
<td>b) Nebuliser solution</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>25.1.7 Montelukast (as sodium salt)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Granules</td>
</tr>
<tr>
<td>b) Tablet</td>
</tr>
</tbody>
</table>

---

249 As polacrilex (polacrilin complex)
250 Use under close supervision within substance dependency treatment programmes
251 Ascorbic acid 500 mg, nicotinamide 160 mg, pyridoxine hydrochloride 50 mg, riboflavin 4 mg, thiamine hydrochloride 250mg/7mL
252 Ascorbic acid 500 mg, nicotinamide 160 mg, pyridoxine hydrochloride 50 mg, riboflavin 4 mg, thiamine hydrochloride 250mg/10mL
253 Use should be strictly controlled and actively monitored
254 Budesonide inhalation 100 micrograms/metered dose is an available alternative
255 As hydrochloride or hydrogen tartrate; strength also expressed as 0.1% or 1 in 1,000
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.</td>
<td><strong>SOLUTIONS CORRECTING WATER, ELECTROLYTE and ACID–BASE DISTURBANCES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26.1</td>
<td><strong>Oral</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26.1.1</td>
<td>Oral rehydration solution (ORS)</td>
<td>PFOL (to make 500mL)</td>
<td>Sachet (WHO low-osmolality formula)</td>
<td>1</td>
</tr>
<tr>
<td>26.1.2</td>
<td>ORS + zinc sulphate</td>
<td>Co-pack</td>
<td>500mL sachets (4) + zinc sulphate tablets (disp.) 20mg (10)</td>
<td>2</td>
</tr>
<tr>
<td>26.1.3</td>
<td>Rehydration solution for malnutrition (ReSoMal)</td>
<td>PFOL (to make 1L)</td>
<td>Sachet (42g) (WHO formula)</td>
<td>4</td>
</tr>
<tr>
<td>26.2</td>
<td><strong>Parenteral</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26.2.1</td>
<td>Glucose</td>
<td>Injectable solution</td>
<td>a) 5% (isotonic) (500mL infusion pack)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 10% (hypertonic) (500mL infusion pack)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>c) 50% (hypertonic) (50mL amp)²⁵⁶</td>
<td>4</td>
</tr>
<tr>
<td>26.2.2</td>
<td>Potassium chloride</td>
<td>Injectable solution</td>
<td>11.2% (20mL amp)²⁵⁷</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) Injectable solution for dilution [c]</td>
<td>4</td>
</tr>
<tr>
<td>26.2.3</td>
<td>Sodium chloride</td>
<td>Injectable solution (infusion)</td>
<td>0.9% (isotonic) (500mL)²⁵⁹</td>
<td>2</td>
</tr>
<tr>
<td>26.2.4</td>
<td>Sodium hydrogen carbonate (bicarbonate)</td>
<td>Injectable solution</td>
<td>8.4% (10mL amp)²⁶⁰</td>
<td>2</td>
</tr>
<tr>
<td>26.2.5</td>
<td>Sodium lactate compound²⁶¹</td>
<td>Injectable solution (infusion)</td>
<td>BP formula²⁶² (500 mL)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Specialist List [c]</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26.2.6</td>
<td>Sodium chloride</td>
<td>Injectable solution</td>
<td>3% (hypertonic)²⁶³ (10mL amp)</td>
<td></td>
</tr>
</tbody>
</table>

²⁵⁶ Use only in dialysis, ICU and other central line fluids enhancement
²⁵⁷ Equivalent to K⁺ and Cl⁻ 1.5 mmol/mL
²⁵⁸ Equivalent to K⁺ and Cl⁻ 2 mmol/mL
²⁵⁹ Equivalent to Na⁺ and Cl⁻ 154 mmol/L
²⁶⁰ Equivalent to Na⁺ and HCO₃⁻ 1,000 mmol/L
²⁶¹ Ringer’s lactate, Hartmann’s solution
²⁶² Equivalent to Na⁺ 131, K⁺ 5, Ca²⁺ 2, Cl⁻ 111, HCO₃⁻ (as lactate) 29 mmol/L
²⁶³ Equivalent to Na⁺ and Cl⁻ 513 mmol/L; use in bronchiolitis, and in hyponatremia in renal conditions in children
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.3 Other</td>
<td>Water for injection</td>
<td>Injection</td>
<td>10mL amp</td>
<td>2</td>
</tr>
<tr>
<td>27. VITAMINS and MINERALS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27.1</td>
<td>Calcium carbonate</td>
<td>Tablet (chewable)</td>
<td>1.25g</td>
<td>4</td>
</tr>
<tr>
<td>27.2</td>
<td>Calcium gluconate</td>
<td>Injection</td>
<td>100mg/mL (10%) (10mL amp)</td>
<td>4</td>
</tr>
<tr>
<td>27.3</td>
<td>Cholecalciferol (Vit D₃)</td>
<td>Oral liq. (drops) [c]</td>
<td>400 IU/mL</td>
<td>4</td>
</tr>
<tr>
<td>27.4</td>
<td>Ergocalciferol (Vit D₂)</td>
<td>Tablet</td>
<td>1.25mg (50,000 IU)</td>
<td>4</td>
</tr>
<tr>
<td>27.5</td>
<td>Pyridoxine HCl (Vit B₆)</td>
<td>Tablet (scored)</td>
<td>50mg</td>
<td>4</td>
</tr>
<tr>
<td>27.6</td>
<td>Retinol (Vit A) (as palmitate)</td>
<td>Capsule</td>
<td>a) 100,000 IU b) 200,000 IU</td>
<td>2</td>
</tr>
<tr>
<td>27.7</td>
<td>Thiamine HCl (Vit B₁)</td>
<td>Tablet (scored)</td>
<td>50mg</td>
<td>4</td>
</tr>
</tbody>
</table>

**Specialist List [c]**

| 27.8 | Cholecalciferol (Vit D₃) | Injection IM (oily) | 300,000 IU/1mL amp | |

### 28. EAR and NOSE MEDICINES

#### 28.1 Ear medicines

| 28.1.1 | Ciprofloxacin HCl | Solution (ear drops) | 0.3% | 2 |
| 28.1.2 | Hydrogen peroxide | Solution (ear drops) | 3% | 3 |

**Specialist List [c]**

| 28.1.3 | Ciprofloxacin HCl + betamethasone sodium | Solution (ear drops) | 0.3% + 0.1% |
| 28.1.4 | Clotrimazole | Solution (ear drops) | 1% |

#### 28.2 Nose medicines

| 28.2.1 | Liquid paraffin | Nasal drops | 100% | 2 |
| 28.2.2 | Sodium chloride | Solution (nasal drops) | 0.9% | 2 |

**Specialist List[c]**

| 28.2.3 | Budesonide | Nasal spray | 100 micrograms/metered dose |

---

264 Equivalent to calcium (elemental) 500mg (Ca²⁺ 12.5 mmol)
265 Equivalent to 10 micrograms/mL
266 Only use in TB patients for isoniazid-induced neuropathy
267 Only use in alcohol withdrawal and properly diagnosed vitamin B deficiency
268 Use only where oral therapy not tolerated or adherence likely to be poor
269 This 3% strength is also expressed as ‘10-volume’. If the ear drops are unavailable, use other available forms & strengths and dilute as required to 3% for use as ear drops
270 Specialists here include Clinical Officer specially trained in ENT
271 Specialists here include Clinical Officer specially trained in ENT
<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>29.</td>
<td>SPECIFIC MEDICINES for NEONATAL CARE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29.1</td>
<td>Medicines administered to the neonate [c]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29.1.1</td>
<td>Chlorhexidine gluconate\textsuperscript{272}</td>
<td>Gel</td>
<td>7.1% (3g tube)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Specialist List</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29.1.2</td>
<td>Caffeine citrate</td>
<td>a) Injection</td>
<td>20mg/mL\textsuperscript{273} (3mL vial)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Oral liq. (drops)</td>
<td>20mg/mL</td>
<td></td>
</tr>
<tr>
<td>29.1.3</td>
<td>Ibuprofen</td>
<td>Injection solution</td>
<td>5mg/mL (2mL amp)</td>
<td></td>
</tr>
<tr>
<td>29.1.4</td>
<td>Prostaglandin E\textsubscript{1} (alprostadil)</td>
<td>Injection solution</td>
<td>500 micrograms/1 mL amp (in alcohol)</td>
<td></td>
</tr>
<tr>
<td>29.1.5</td>
<td>Surfactant</td>
<td>Suspension for intra-tracheal instillation</td>
<td>25mg/mL\textsuperscript{274} or 80mg/mL\textsuperscript{275}</td>
<td></td>
</tr>
<tr>
<td>29.2</td>
<td>Medicines administered to the mother</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29.2.1</td>
<td>Dexamethasone\textsuperscript{276}</td>
<td>Injection</td>
<td>4mg/mL (as sodium phosphate)</td>
<td>2</td>
</tr>
<tr>
<td>30.</td>
<td>MEDICINES used in JOINT DISEASES</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.1</td>
<td>Medicine for gout</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.1.1</td>
<td>Allopurinol</td>
<td>Tablet (scored)</td>
<td>300mg</td>
<td>4</td>
</tr>
<tr>
<td>30.2</td>
<td>Disease-modifying agents used in rheumatoid disorders (DMARDs)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.2.1</td>
<td>Chloroquine</td>
<td>Tablet</td>
<td>150mg (phosphate or sulphate)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td><strong>Specialist List</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.2.2</td>
<td>Azathioprine</td>
<td>Tablet</td>
<td>50mg</td>
<td></td>
</tr>
<tr>
<td>30.2.3</td>
<td>Leflunomide\textsuperscript{277}</td>
<td>Tablet</td>
<td>20mg</td>
<td></td>
</tr>
<tr>
<td>30.2.4</td>
<td>Methotrexate</td>
<td>Tablet</td>
<td>2.5mg</td>
<td></td>
</tr>
<tr>
<td>30.2.5</td>
<td>Sulfasalazine</td>
<td>Tablet</td>
<td>500mg</td>
<td></td>
</tr>
<tr>
<td>30.3</td>
<td>Juvenile joint disease</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.3.1</td>
<td>Aspirin\textsuperscript{278}</td>
<td>Tablet (scored)</td>
<td>300mg</td>
<td>4</td>
</tr>
</tbody>
</table>

\textsuperscript{272} Use for umbilical cord care; delivering chlorhexidine 4% (avoid use of other presentations which resemble eye ointment)

\textsuperscript{273} Equivalent to 10mg caffeine base/mL

\textsuperscript{274} Beractant (bovine lung extract) (4mL single-use vial)

\textsuperscript{275} Poractant alpha (porcine lung phospholipid fraction) (1.5mL vial)

\textsuperscript{276} At Level 2, only for use by trained midwives in management of pre-term labour in Focused Antenatal Care (FANC) clinics

\textsuperscript{277} Use only when methotrexate and sulfasalazine cannot be used

\textsuperscript{278} Use in treatment of acute or chronic rheumatic fever, juvenile arthritis, Kawasaki disease
### 31. PREPARATIONS for PARENTERAL NUTRITION

#### Specialist List

<table>
<thead>
<tr>
<th>#</th>
<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.1</td>
<td>Amino acids</td>
<td>Infusion</td>
<td>a) 5-6% with glucose [c] (100mL bottle)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 10% (with electrolytes) (500mL bottle)</td>
<td></td>
</tr>
<tr>
<td>31.2</td>
<td>Fat (lipid)</td>
<td>Infusion (emulsion)</td>
<td>a) 10% (500mL)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>b) 20% (100mL [c] &amp; 500mL)</td>
<td></td>
</tr>
<tr>
<td>31.3</td>
<td>Total parenteral nutrition (TPN) (amino acids + lipids + glucose + electrolytes)</td>
<td>Infusion (emulsion) (triple-chamber)</td>
<td>Composition &amp; size according to specialist requirements</td>
<td></td>
</tr>
</tbody>
</table>

### 32. PREPARATIONS for MANAGING SEVERE ACUTE MALNUTRITION

#### Specialist List

<table>
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<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.1</td>
<td>Ready to use therapeutic food (RUTF)</td>
<td>Oral paste</td>
<td>Standard formula (500 kcal sachet)</td>
<td></td>
</tr>
<tr>
<td>32.2</td>
<td>F-75 therapeutic milk</td>
<td>PFOL (for approx. 600mL)</td>
<td>Standard formula (102.5g sachet)</td>
<td></td>
</tr>
<tr>
<td>32.3</td>
<td>F-100 therapeutic milk</td>
<td>Standard formula (114g sachet)</td>
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### 33. MEDICINES for other CONDITIONS

#### Specialist List

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<th>Drug</th>
<th>Dose-form</th>
<th>Size/strength</th>
<th>Level</th>
</tr>
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<tbody>
<tr>
<td>33.1</td>
<td>Levamisole</td>
<td>Tablet</td>
<td>50mg (as HCl)</td>
<td></td>
</tr>
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279 Required product/composition to be determined by the specialist
280 Required product/presentation to be determined by the specialist
281 Micronutrient-fortified peanut/milk paste providing 500 kcal per sachet
282 Micronutrient-fortified milk powder for reconstitution with water; also known as Formula 75, or Phase 1 (stabilisation phase) Therapeutic Milk
283 Micronutrient-fortified milk powder for reconstitution with water; also known as Formula 100, or Phase 2 (rehabilitation phase) Therapeutic Milk
284 Use in treatment of nephrotic syndrome
Annex 1: Contributors to KEML 2016 Development

Following is a list of those who contributed to the various stages of KEML 2016 development as described on p.x indicating their position or area of expertise and place of work.

The National Medicines & Therapeutics Committee (NMTC 2014)

Dr Izaq Odongo MoH, Head of DCRHS (Chair)
Dr Sarah Chuchu MoH, Pharmaceutical Services (Secretary)
Dr Esther Ogara MoH, Research
Dr Priscilla S Migiro MoH, Specialised Clinical Services
Mr Micah Kisoo MoH, General Clinical Services
Dr Josphat Mbuva MoH, Pharmaceutical Services
Mr Fredrick Omiah MoH, Nursing Services
Mr Francis Mwalloh MoH, Medical Laboratory Services
Dr Elizabeth Onyiego MoH, Oral Health Services

The Technical Working Group on KEML Review & Update

Dr Annah Wamae Head, MoH, DFH MoH (Chair)
Dr Josphat N Mbuva Pharmacist (MSS) MoH/PSU (Secretary)
Dr Chris Forshaw Sen. Pharm. Adviser MoH/PSU (Editor)
Dr Oduor Onyango Pharmacist (MMU) County HS, Garissa
Dr Bernard Makenzie Pharmacist (MMU) County HS, Kwale
Dr Edward Abwao Pharmacist (MRA) PPB
Dr John Aduda Pharmacist (MPU) KEMSA
Dr Jane Masiga Pharmacist (MPU) MEDS
Ms Teresia Kimita Nurse (PHC) County HS, Nairobi
Ms Veronica Wanjohi Clinical Medicine County HS, Nairobi
Practitioner (PHC)
Dr Irene Weru Clinical Pharmacist (Oncology)
Dr Beatrice Jakait Pharmacist (HSCM) MTRH
Dr Enoch Omongi Internal Medicine KNH/UoN
Specialist/Lecturer
Notes on areas of pharmaceutical expertise: HCM = health commodity management, HSCM = hospital supply chain management, MPU = medicines procurement & utilisation, MMU = medicines management & use, MRA = medicines regulation & assessment, MSS = medicines supply system

Other contributors

Dr Tom Menge
Chief Pharmacist/
Toxicology Specialist
KNH

Dr Susan Mutua
Clinical Pharmacist
KNH

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Paediatric Specialist
MoH, NCAHU (Head)

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Neglected Tropical Diseases Specialist
MoH, NTDU

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Clinical Pharmacist
MoH, NTDU

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MoH, Ophthalmic Services (Head)

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Ophthalmology Spec.
Kikuyu Hospital

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Ophthalmic Nurse
MoH, OPU

Jane Musyoka
Ophthalmic CO
KNH

Dr Zipporah Ali
Palliative Care Spec.
KEHPCA (Exec.Dir)

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Palliative Care Spec.
KEHPCA

Dr Asaph Kinyajui
Palliative Care Spec.
KEHPCA

Dr Esther Nafula
Palliative Care Spec.
KEHPCA

David Musyoki
Palliative Care (Nursing)
KEHPCA

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Mental Health Spec.
MoH, Mental HU (Head)

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Mental Health Spec.
MoH, Mental HU

Dr Fredrick Owiti
Mental Health Spec.
Chiromo Lane MC

Dr RV Wamuhoma
Mental Health Spec.
Mathari NTRH, NBI
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<th>Institution</th>
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<td>Dr Josphine Omondi</td>
<td>Mental Health Spec.</td>
<td>KNH</td>
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<td>Dr Beatrice Ogola</td>
<td>Clinical Pharmacist</td>
<td>Mathare Hosp, NBI</td>
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<tr>
<td>Dr Dorothy Memusi</td>
<td>Pharmacist</td>
<td>MoH, Malaria CU</td>
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<tr>
<td>Dr David Otieno</td>
<td>Anaesthetic Specialist</td>
<td>Nairobi Hosp/KSA</td>
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<tr>
<td>Dr Jacqueline Andhaga</td>
<td>Anaesthetic Specialist</td>
<td>Mama Lucy Kibaki Hospital, NBI</td>
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<tr>
<td>Dr Phenina N Kitili</td>
<td>Anaesthetic Specialist</td>
<td>KNH</td>
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<tr>
<td>Dr Hosea Waweru</td>
<td>Dermatology Specialist</td>
<td>Upper Hill MC, NBI</td>
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<tr>
<td>Prof Nicholas Othieno-Abinya</td>
<td>Oncology Specialist</td>
<td>AKU Hospital, NBI</td>
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<tr>
<td>Prof William Macharia</td>
<td>Oncology Specialist</td>
<td>MTRH</td>
</tr>
<tr>
<td>Prof Jessie Githanga</td>
<td>Haematology/Oncology Specialist</td>
<td>KNH/UoN</td>
</tr>
<tr>
<td>Prof Isaac M Macharia</td>
<td>ENT Specialist</td>
<td>KNH/UoN</td>
</tr>
<tr>
<td>Dr Thomas Mutie</td>
<td>GI Specialist</td>
<td>KNH</td>
</tr>
<tr>
<td>Dr John Ngigi</td>
<td>Renal Specialist</td>
<td>KNH</td>
</tr>
<tr>
<td>Diviner K Nyarera</td>
<td>Renal Spec. (Nursing)</td>
<td>KNH</td>
</tr>
<tr>
<td>Dr Patrick Mburugu</td>
<td>Urology Specialist</td>
<td>KNH</td>
</tr>
<tr>
<td>Dr Renson Mukhwana</td>
<td>Paediatric Endocrinology Spec.</td>
<td>Gertrude's Children's Hospital</td>
</tr>
<tr>
<td>Dr Kennedy Gogo</td>
<td>Internal Medicine Spec.</td>
<td>Nakuru L5 Hospital/Egerton University</td>
</tr>
<tr>
<td>Dr Richard Muthoka</td>
<td>Clinical Pharmacist</td>
<td>MoH, TB &amp; Lep. CU</td>
</tr>
<tr>
<td>Dr Irene Mukui</td>
<td>HIV Specialist</td>
<td>MoH, NASCOP/CTP (Head)</td>
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<tr>
<td>Dr Susan Njogo</td>
<td>Pharmacist</td>
<td>MoH, NASCOP</td>
</tr>
<tr>
<td>Dr Jonah Maina</td>
<td>Pharmacist</td>
<td>MoH, RH Unit</td>
</tr>
<tr>
<td>Dr Bartilol Kigen</td>
<td>Gynaecology Spec.</td>
<td>MoH, RH Unit</td>
</tr>
<tr>
<td>Mr Charles Mburu</td>
<td>Imaging Specialist</td>
<td>MoH, Radiology Unit</td>
</tr>
<tr>
<td>Dr Daniel Tewolde</td>
<td>Nutritional Feeding Sp.</td>
<td>UNICEF, Kenya</td>
</tr>
<tr>
<td>Dr Ndinda Kusu</td>
<td>Pharmacist/PH Spec.</td>
<td>MSH/HCMP</td>
</tr>
<tr>
<td>Dr Regina Mbindyo</td>
<td>Country Medicines Adviser</td>
<td>WHO</td>
</tr>
</tbody>
</table>
KEML 2016

Contributors Abbreviations & Acronyms

AKU      Aga Khan University
CO       Clinical Officer
Cons.    Consultant
CTP      HIV Care & Treatment Programme (under NASCOP)
CU       Control Unit
DCAH     Division of Child and Adolescent Health
DCP      Deputy Chief Pharmacist
DCRHS    Department of Clinical & Rehabilitative Health Services
DFH      Division of Family Health
DLTLD    Division of Leprosy, Tuberculosis and Lung Disease
DOMC     Division of Malaria Control
DSRS     Department of Standards and Regulatory Services
GI       Gastrointestinal
HCMP     Health Commodities Management Programme
HS       Health Services
HU       Health Unit
Int.     Internal
KEMRI    Kenya Medical Research Institute/Wellcome Trust
KEMSA    Kenya Medical Supplies Agency
KEHPCA   Kenya Hospices & Palliative Care Association
KMA      Kenya Medical Association
KNH      Kenyatta National Hospital
KPA      Kenya Paediatric Association
KSA      Kenya Society of Anaesthetists
L5       Level 5
Lep      Leprosy
MC       Medical Centre
MEDS     Mission for Essential Drugs and Supplies
MoH      Ministry of Health
MSH      Management Sciences for Health
MTRH     Moi Teaching & Referral Hospital, Eldoret
NASCOP   National AIDS & STI Control Programme
Nat      National
KEML 2016

NBI     Nairobi
NCAHU   Neonatal, Child & Adolescent Health Unit
NTDU    Neglected Tropical Diseases Unit
NTRH    National Teaching & Referral Hospital
Pharm   Pharmaceutical
PHC     Primary Health Care
PPB     Pharmacy & Poisons Board
PSU     Pharmaceutical Services Unit
QA      Quality Assurance
RH      Reproductive Health
Spec    Specialist
Spec or Sp  Specialist
Trop    Tropical
UoN     University of Nairobi
WHO     World Health Organization
Annex 2: References

1. *The Selection and Use of Essential Medicines* 20\textsuperscript{th} Report of the WHO Expert Committee (including the 19th WHO Model List of Essential Medicines and the 5th WHO Model List of Essential Medicines for Children) WHO Technical Report Series #994, 2015 (available at http://apps.who.int/iris/bitstream/10665/189763/1/9789241209946_eng.pdf) This is commonly referred to as the WHO Model List and is the prime reference and evidence base for the KEML.


3. *Kenyatta National Hospital Formulary*, Kenyatta National Hospital (2013) Used to obtain information on the medicines presentations currently in use at the national referral hospital in Nairobi.


5. *KEMSA Customer Order Form* (current version April 2015) Kenya Essential Medical Supplies Authority, Nairobi Used to obtain information on local (public sector) medicines presentations availability and prices.


7. *National Guidelines for the Diagnosis, Treatment and Prevention of Malaria In Kenya* 5\textsuperscript{th} edition (draft) Ministry of Health (2016)
Division of Environmental Health Division of Environmental Health, Ministry of Health (2014)


KEML Amendment Proposal Form

Please complete each of the sections and submit the Form together with hard and/or soft copies of supporting evidence and any other relevant documentation to:

The Chief Pharmacist
Afya House, Cathedral Rd
Box 30016-00100, Nairobi, Kenya
Email: chiefpharmmoh@gmail.com

Name of Proposer:
Designation:
Place of Work:
Address:

Tel: Email:

1. Type of Amendment Proposed (please tick):
   a) Addition [   ]    b) Deletion [   ]
   c) Change of Presentation [   ]    d) Other [   ]

2. Details of Proposal:

>>>
3. Supporting Arguments/Evidence Base:

4. Supporting References/Relevant Documentation:

5. Signature:  

6. Date:
Annex 4: Terms of Reference for the TWG on Review & Update of the KEML

(i) Select medicines for listing on the next revised edition of the Kenya Essential Medicines List

(ii) Apply essential medicines concepts and the principles of rational selection, affordable pricing and sustainable financing in the review process


(iv) Adhere to the standard operating procedures (SOP) adopted by the NMTC for the review process including those for managing conflict of interests.

(v) Engage/consult/collaborate with relevant experts and stakeholders in the review process
Annex 5: The National Medicines & Therapeutics Committee (2014)

Membership:

1. Director of Medical Services (DMS) (Chair)
2. Head, Pharmaceutical Services/Chief Pharmacist (Secretary)
3. Pharmacist (Pharmaceutical Services/Medicines Supply Chain)
4. Head, Nursing Services
5. Head, Laboratory Services
6. Head, Oral Health Services
7. Head, Specialised Clinical Services
8. Head, General Clinical Services
9. Head, Research Unit
10. Head, Administration

Terms of Reference:

1. Coordinate the development and review of policies on clinical governance and use of medicines & other EHPT
2. In coordination with the MoH Department of Health Standards, Quality Assurance & Regulation (DHSQAR) develop standards and guidelines on:
   - Establishment and operations of Medicines and Therapeutics Committees at various levels (national, county and institutional)
   - Appropriate prescribing and dispensing
   - Safe and cost-effective use of medicines and other EHPT, including use of evidence-based standardized approaches, adverse event monitoring and reporting, medicines information, and quality assurance
   - Clinical audits and medicines use evaluation studies
3. In coordination with DHSQAR, formulate, review and update all relevant therapeutics guidelines, including the:
   - National Clinical Guidelines
   - National Formulary
   - National Essential Medicines & Medical Supplies (Devices) lists

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285 All MoH officers
286 Essential Health Products and Technologies
4. In collaboration with relevant stakeholders, review medicines and therapeutics research findings and recommend appropriate interventions to inform policy development; identify, propose and commission as appropriate, areas requiring further research.

5. Collaborate with the relevant National and County health authorities to plan and implement mitigation measures in the event of emergency disease outbreaks or health threats, e.g. identification of items for inclusion in buffer stocks of EHPT, coordination and use of emergency donations.

6. Collaborate with relevant departments involved in the introduction of disease-based or vertical programmes in relation to the selection and use of any medicines and/or other EHPT.

7. Increase awareness and understanding of the critical role, functions and activities of the NMTC and advocate for adequate support and funding.

8. Provide leadership in improving awareness and education relating to the safe and appropriate use of medicines & other EHPT amongst health care professionals and consumers.

9. Provide technical support to county and facility MTCs through the development and dissemination of MTC guidelines, training materials, and capacity building.

10. Support the development, review and revision as necessary of pre-service, in-service and CPD training courses in therapeutics and the management and use of medicines and other EHPT.

11. Perform any other relevant task as may be assigned by the appointing authority.

See over for the **NMTC Organisational Structure**
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The *Kenya Essential Medicines List 2016* is an indispensable guide to the medicines recommended for the management of common conditions in Kenya. It is primarily directed at health care providers and medicines supply managers in the public and non-public health sectors. It should be used together with the current versions of updated national clinical guidelines for those conditions for which such guidelines exist.

As technical and administrative guides for the health sector, these documents should also be of great interest and usefulness to healthcare trainers, trainees, interns and researchers as well others who may have an interest in, or responsibility for, the national health system.

The medicines recommended in the KEML have been carefully and systematically selected using a meticulous process, applying well-defined criteria and based on the latest available and internationally accepted evidence on best therapeutic practice.

Therefore, they are the optimum set of medicines needed to ensure provision of the Kenya Essential Package for Health (KEPH), which is part of the sector’s comprehensive approach for health services delivery to the population. The KEML is published in the context of ongoing health reforms aimed at reversing the declining trends in the national health status, by ensuring equitable access to healthcare services.

The KEML is an indispensable guide for ensuring access to Essential Medicines, aimed at stimulating investment in local pharmaceutical production, procurement and supply systems, improved prescribing and dispensing of medicines, as well as strategies for healthcare financing and for Appropriate Medicines Use (AMU). Routine use as recommended can be expected to have a major positive impact on the health status of Kenyans.