

## Essential Medicines

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# WHO Model List (revised April 2003)

## Explanatory Notes

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The **core list** presents a list of minimum medicine needs for a basic health care system, listing the most efficacious, safe and cost-effective medicines for priority conditions. Priority conditions are selected on the basis of current and estimated future public health relevance, and potential for safe and cost-effective treatment.

The **complementary list** presents essential medicines for priority diseases, for which specialized diagnostic or monitoring facilities, and/or specialist medical care, and/or specialist training are needed. In case of doubt medicines may also be listed as complementary on the basis of consistent higher costs or less attractive cost-effectiveness in a variety of settings.

When the strength of a drug is specified in terms of a selected salt or ester, this is mentioned in brackets; when it refers to the active moiety, the name of the salt or ester in brackets is preceded by the word "as".

**The square box symbol** (□) is primarily intended to indicate similar clinical performance within a pharmacological class. The listed medicine should be the example of the class for which there is the best evidence for effectiveness and safety. In some cases, this may be the first medicine that is licensed for marketing; in other instances, subsequently licensed compounds may be safer or more effective. Where there is no difference in terms of efficacy and safety data, the listed medicine should be the one that is generally available at the lowest price, based on international drug price information sources.

Therapeutic equivalence is only indicated on the basis of reviews of efficacy and safety and when consistent with WHO clinical guidelines. National lists should not use a similar symbol and should be specific in their final selection, which would depend on local availability and price."

Drugs are listed in alphabetical order, within sections.

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| <b>1. ANAESTHETICS</b>   |  |
| <b>1.1 General anaesthetics and oxygen</b>   |  |
| ether, anaesthetic *   | inhalation<br>* the public health relevance and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. |
| halothane  | inhalation   |
| ketamine   | injection, 50 mg (as hydrochloride)/ml in 10-ml vial   |
| nitrous oxide  | inhalation   |
| oxygen   | inhalation (medicinal gas)   |
| <input type="checkbox"/> thiopental  | powder for injection, 0.5 g, 1.0 g (sodium salt) in ampoule  |
| <b>1.2 Local anaesthetics</b>  |  |
| <input type="checkbox"/> bupivacaine   | injection, 0.25%, 0.5% (hydrochloride) in vial<br>injection for spinal anaesthesia, 0.5% (hydrochloride) in 4-ml ampoule to be mixed with 7.5% glucose solution                                  |
| <input type="checkbox"/> lidocaine   | injection, 1%, 2% (hydrochloride) in vial<br>injection for spinal anaesthesia, 5% (hydrochloride) in 2-ml ampoule to be mixed with 7.5% glucose solution<br>topical forms, 2-4% (hydrochloride)  |
| <input type="checkbox"/> lidocaine + epinephrine (adrenaline)  | injection 1%, 2% (hydrochloride)+ epinephrine 1:200 000 in vial; dental cartridge 2% (hydrochloride) + epinephrine 1:80 000  |
| <i>Complementary List</i>  |  |
| <i>ephedrine</i>   | injection, 30 mg (hydrochloride)/ml in 1-ml ampoule (For use in spinal anaesthesia during delivery, to prevent hypotension)  |
| <b>1.3 Preoperative medication and sedation for short-term procedures</b>  |  |
| atropine   | injection, 1 mg (sulfate) in 1-ml ampoule  |
| <input type="checkbox"/> diazepam  | injection, 5 mg/ml in 2-ml ampoule; tablet, 5 mg   |
| morphine   | injection, 10 mg (sulfate or hydrochloride) in 1-ml ampoule  |
| promethazine   | elixir or syrup, 5 mg (hydrochloride)/5ml  |
| <b>2. ANALGESICS, ANTIPYRETICS, NON-STEROIDAL ANTI-INFLAMMATORY MEDICINES (NSAIMs), MEDICINES USED TO TREAT GOUT AND DISEASE MODIFYING AGENTS IN RHEUMATOID DISORDERS (DMARDs)</b> |  |
| <b>2.1 Non-opioids and non-steroidal anti-inflammatory medicines (NSAIMs)</b>  |  |
| acetylsalicylic acid   | tablet, 100-500 mg; suppository, 50-150 mg   |
| ibuprofen  | tablet, 200 mg, 400 mg   |
| paracetamol *  | tablet, 100-500 mg; suppository, 100 mg; syrup, 125 mg/5ml<br>* not recommended for anti-inflammatory use due to lack of proven benefit to that effect   |

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| <b>2.2 Opioid analgesics</b>  |   |
| codeine   | tablet, 30 mg (phosphate)   |
| morphine  | injection, 10 mg in 1-ml ampoule (sulfate or hydrochloride); oral solution, 10 mg (hydrochloride or sulfate)/5 ml; tablet, 10 mg (sulfate)  |
| <b>2.3 Medicines used to treat gout</b>                                   |   |
| allopurinol   | tablet, 100 mg  |
| colchicine *  | tablet, 500 micrograms<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee.                |
| <b>2.4 Disease modifying agents used in rheumatoid disorders (DMARDs)</b> |   |
| chloroquine   | tablet, 100 mg, 150 mg (as phosphate or sulfate)  |
| <i>Complementary List</i>   |   |
| azathioprine  | tablet, 50 mg   |
| methotrexate  | tablet, 2.5 mg (as sodium salt)   |
| penicillamine   | capsule or tablet, 250 mg   |
| sulfasalazine   | tablet, 500 mg  |
| <b>3. ANTIALLERGICS AND MEDICINES USED IN ANAPHYLAXIS</b>                 |   |
| <input type="checkbox"/> chlorphenamine                                   | tablet, 4 mg (hydrogen maleate); injection, 10 mg (hydrogen maleate) in 1-ml ampoule  |
| dexamethasone   | injection, 4 mg dexamethasone phosphate (as disodium salt) in 1-ml ampoule  |
| epinephrine (adrenaline)  | injection, 1 mg (as hydrochloride or hydrogen tartrate) in 1-ml ampoule   |
| hydrocortisone  | powder for injection, 100 mg (as sodium succinate) in vial  |
| <input type="checkbox"/> prednisolone *                                   | tablet, 5 mg, 25 mg<br>* there is no evidence for complete clinical similarity between prednisolone and dexamethasone at high doses.  |
| <b>4. ANTIDOTES AND OTHER SUBSTANCES USED IN POISONING</b>                |   |
| <b>4.1 Non-specific</b>   |   |
| charcoal, activated   | powder  |
| <b>4.2 Specific</b>   |   |
| acetylcysteine  | injection, 200 mg/ml in 10-ml ampoule   |
| atropine  | injection, 1 mg (sulfate) in 1-ml ampoule   |
| calcium gluconate *   | injection, 100 mg/ml in 10-ml ampoule<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. |

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| deferoxamine   | powder for injection, 500 mg (mesilate) in vial  |
| dimercaprol  | injection in oil, 50 mg/ml in 2-ml ampoule   |
| DL-methionine  | tablet, 250 mg   |
| methylthioninium chloride<br>(methylene blue)                                  | injection, 10 mg/ml in 10-ml ampoule   |
| naloxone   | injection, 400 micrograms (hydrochloride) in 1-ml ampoule  |
| penicillamine  | capsule or tablet, 250 mg  |
| potassium ferric hexacyano-<br>ferrate(II) · 2H <sub>2</sub> O (Prussian blue) | powder for oral administration   |
| sodium calcium edetate   | injection, 200 mg/ml in 5-ml ampoule   |
| sodium nitrite   | injection, 30 mg/ml in 10-ml ampoule   |
| sodium thiosulfate   | injection, 250 mg/ml in 50-ml ampoule  |
| <b>5. ANTICONVULSANTS/ANTIEPILEPTICS</b>                                       |  |
| carbamazepine  | scored tablet, 100 mg, 200 mg  |
| □ diazepam   | injection, 5 mg/ml in 2-ml ampoule (intravenous or rectal)   |
| magnesium sulfate*   | injection, 500 mg/ml in 2-ml ampoule; 500mg/ml in 10-ml ampoule<br>* for use in eclampsia and severe pre-eclampsia and not for other convulsant disorders.   |
| phenobarbital  | tablet, 15-100 mg; elixir, 15 mg/5ml   |
| phenytoin  | capsule or tablet, 25 mg, 50 mg, 100 mg (sodium salt); injection, 50 mg/ml in 5-ml vial (sodium salt)  |
| valproic acid  | enteric coated tablet, 200 mg, 500 mg (sodium salt)  |
| <i>Complementary List</i>  |  |
| □ clonazepam *   | scored tablet 500 micrograms<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. |
| ethosuximide   | capsule, 250 mg; syrup, 250 mg/5ml   |
| <b>6. ANTI-INFECTIVE MEDICINES</b>   |  |
| <b>6.1 Anthelmintics</b>   |  |
| <i>6.1.1 Intestinal anthelmintics</i>  |  |
| albendazole  | chewable tablet, 400 mg  |
| levamisole   | tablet, 50 mg; 150 mg (as hydrochloride)   |
| □ mebendazole  | chewable tablet, 100 mg, 500 mg  |
| niclosamide *  | chewable tablet, 500 mg<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be  |

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|   | reviewed at the next meeting of the Expert Committee.   |
| praziquantel  | tablet, 150 mg, 600 mg  |
| pyrantel *  | chewable tablet 250 mg (as embonate); oral suspension, 50 mg (as embonate)/ml<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. |
| <b>6.1.2 Antifilarials</b>                                |   |
| ivermectin  | scored tablet, 3 mg, 6 mg   |
| <i>Complementary List</i>                                 |   |
| diethylcarbamazine  | tablet, 50 mg, 100 mg (dihydrogen citrate)  |
| suramin sodium  | powder for injection, 1 g in vial   |
| <b>6.1.3 Antischistosomal and antitrepatode medicines</b> |   |
| praziquantel  | tablet, 600 mg  |
| triclabendazole *   | tablet, 250 mg<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee.  |
| <i>Complementary List</i>                                 |   |
| oxamniquine *   | capsule, 250 mg; syrup, 250 mg/5ml<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee.  |
| <b>6.2 Antibacterials</b>                                 |   |
| <b>6.2.1 Beta Lactam medicines</b>                        |   |
| amoxicillin   | capsule or tablet, 250 mg, 500 mg (anhydrous); powder for oral suspension, 125 mg (anhydrous)/5 ml  |
| amoxicillin + clavulanic acid                             | tablet, 500 mg + 125 mg   |
| ampicillin  | powder for injection, 500 mg, 1 g (as sodium salt) in vial  |
| benzathine benzylpenicillin                               | powder for injection, 1.44 g benzylpenicillin (=2.4 million IU) in 5-ml vial  |
| benzylpenicillin  | powder for injection, 600 mg (= 1 million IU), 3 g (= 5 million IU) (sodium or potassium salt) in vial  |
| □ cloxacillin   | capsule, 500 mg, 1 g (as sodium salt); powder for oral solution, 125 mg (as sodium salt)/5 ml; powder for injection, 500 mg (as sodium salt) in vial  |
| phenoxymethylpenicillin                                   | tablet, 250 mg (as potassium salt); powder for oral suspension, 250 mg (as potassium salt)/5 ml   |
| procaine benzylpenicillin                                 | powder for injection, 1 g (=1 million IU), 3 g (=3 million IU) in vial  |
| <i>Complementary List</i>                                 |   |

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| <i>ceftazidime</i>                          | powder for injection, 250 mg (as pentahydrate) in vial  |
| <input type="checkbox"/> <i>ceftriaxone</i> | powder for injection, 250 mg (as sodium salt) in vial   |
| <i>imipenem</i> * + <i>cilastatin</i> *     | powder for injection 250 mg (as monohydrate) + 250 mg (as sodium salt), 500 mg (as monohydrate) + 500 mg (as sodium salt) in vial<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. |
| <b>6.2.2 Other antibacterials</b>           |   |
| azithromycin *                              | capsule, 250 mg or 500 mg; suspension 200 mg/5 ml<br>* only listed for single dose treatment of genital <i>C.trachomatis</i> and of trachoma.   |
| chloramphenicol                             | capsule, 250 mg; oral suspension, 150 mg (as palmitate)/5 ml; powder for injection, 1 g (sodium succinate) in vial; oily suspension for injection 0.5 g (as sodium succinate)/ml in 2-ml ampoule  |
| <input type="checkbox"/> ciprofloxacin *    | tablet 250 mg (as hydrochloride)<br>* final selection depends on indication for use   |
| doxycycline *                               | capsule or tablet, 100 mg (hydrochloride)<br>* final selection depends on indication for use  |
| <input type="checkbox"/> erythromycin       | capsule or tablet, 250 mg (as stearate or ethyl succinate) ; powder for oral suspension, 125 mg (as stearate or ethyl succinate); powder for injection, 500 mg (as lactobionate) in vial  |
| <input type="checkbox"/> gentamicin *       | injection, 10 mg, 40 mg (as sulfate)/ml in 2-ml vial<br>* final selection depends on indication for use   |
| <input type="checkbox"/> metronidazole      | tablet, 200-500 mg; injection, 500 mg in 100-ml vial; suppository, 500 mg, 1 g; oral suspension, 200 mg (as benzoate)/5 ml  |
| nalidixic acid *                            | tablet 250 mg, 500 mg<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee.   |
| nitrofurantoin                              | tablet, 100 mg  |
| spectinomycin *                             | powder for injection, 2 g (as hydrochloride) in vial<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee.  |
| sulfamethoxazole + trimethoprim             | tablet, 100 mg + 20 mg, 400 mg + 80 mg; oral suspension, 200 mg + 40 mg/5 ml; injection, 80 mg + 16 mg/ml in 5-ml and 10-ml ampoules  |
| trimethoprim                                | tablet, 100 mg, 200 mg  |
| <b>Complementary List</b>                   |   |
| <i>clindamycin</i>                          | capsule, 150 mg; injection, 150 mg (as phosphate)/ml  |
| <i>sulfadiazine</i>                         | tablet, 500 mg; injection, 250 mg (sodium salt) in 4-ml ampoule   |
| <i>vancomycin</i>                           | powder for injection, 250 mg (as hydrochloride) in vial   |
| <b>6.2.3 Antileprosy medicines</b>          |   |

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| <p>Medicines used in the treatment of leprosy should never be used except in combination. Combination therapy is essential to prevent the emergence of drug resistance. Colour coded blister packs (MDT blister packs) containing standard two medicine (paucibacillary leprosy) or three medicine (multibacillary leprosy) combinations for adult and childhood leprosy should be used. MDT blister packs can be supplied free of charge through WHO.</p> |   |
| clofazimine  | capsule, 50 mg, 100 mg  |
| dapsone  | tablet, 25 mg, 50 mg, 100 mg  |
| rifampicin   | capsule or tablet, 150 mg, 300 mg   |
| <i>6.2.4 Antituberculosis medicines</i>  |   |
| ethambutol   | tablet, 100 mg-400 mg (hydrochloride)   |
| isoniazid  | tablet, 100 -300 mg   |
| isoniazid + ethambutol   | tablet, 150 mg + 400 mg   |
| pyrazinamide   | tablet, 400 mg  |
| rifampicin   | capsule or tablet, 150 mg, 300 mg   |
| rifampicin + isoniazid   | tablet, 60 mg + 30 mg; 150 mg + 75 mg; 300 mg + 150 mg;<br>60 mg + 60 mg ( <i>For intermittent use three times weekly</i> );<br>150 mg + 150 mg ( <i>For intermittent use three times weekly</i> )  |
| rifampicin + isoniazid + pyrazinamide  | tablet, 60 mg + 30 mg + 150 mg; 150 mg + 75 mg + 400 mg<br>150 mg + 150 mg + 500 mg ( <i>For intermittent use three times weekly.</i> )   |
| rifampicin + isoniazid + pyrazinamide + ethambutol   | tablet, 150 mg + 75 mg + 400 mg + 275 mg  |
| streptomycin   | powder for injection, 1 g (as sulfate) in vial  |
| <i>Complementary List</i>  |   |
| <i>thioacetazone</i> * +<br><i>isoniazid</i> *   | tablet, 50 mg + 100 mg; 150 mg + 300 mg<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. |
| <i>Reserve second-line drugs for the treatment of multidrug-resistant tuberculosis (MDR-TB) should be used in specialized centres adhering to WHO standards for TB control. (D)</i>  |   |
| <i>amikacin</i>  | powder for injection, 1000 mg in vial   |
| <i>p-aminosalicylic acid</i>   | tablet, 500 mg; granules, 4 g in sachet   |
| <i>capreomycin</i>   | powder for injection, 1000 mg in vial   |
| <i>ciprofloxacin</i>   | tablet, 250 mg, 500 mg  |
| <i>cycloserine</i>   | capsule or tablet, 250 mg   |
| <i>ethionamide</i>   | tablet, 125 mg, 250 mg  |
| <i>kanamycin</i>   | powder for injection, 1000 mg in vial   |
| <i>levofloxacin</i> *  | tablet, 250 mg, 500 mg<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be  |

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|  | reviewed at the next meeting of the Expert Committee.   |
| <i>ofloxacin</i>   | tablet, 200 mg, 400 mg  |
| <b>6.3 Antifungal medicines</b>  |   |
| □ fluconazole  | capsule 50 mg; injection 2 mg/ml in vial; oral suspension 50 mg/5-ml  |
| griseofulvin   | capsule or tablet, 125 mg, 250 mg   |
| nystatin   | tablet, 100 000, 500 000 IU; lozenge 100 000 IU;<br>pessary, 100 000 IU   |
| <i>Complementary List</i>  |   |
| <i>amphotericin B</i>  | powder for injection, 50 mg in vial   |
| <i>flucytosine</i>   | capsule, 250 mg; infusion, 2.5 g in 250 ml  |
| <i>potassium iodide</i>  | saturated solution  |
| <b>6.4 Antiviral medicines</b>   |   |
| <i>6.4.1 Antiherpes medicines</i>  |   |
| □ aciclovir  | tablet, 200 mg; powder for injection 250 mg (as sodium salt) in vial  |
| <i>6.4.2 Antiretrovirals</i>   |   |
| <p>Adequate resources and specialist oversight are a pre-requisite for the introduction of this class of drugs. The antiretroviral drugs do not cure the HIV infection, they only temporarily suppress viral replication and improve symptoms. They have various adverse effects and patients receiving these drugs require careful monitoring by adequately trained health professionals. For these reasons, continued rigorous promotion of measures to prevent new infections is essential and the need for this has not been diminished in any way by the addition of antiretroviral drugs to the Model List. Adequate resources and trained health professionals are a prerequisite for the introduction of this class of drugs. Effective therapy requires commencement of three or four drugs simultaneously, and alternative regimens are necessary to meet specific requirements at start-up, to substitute for first-line regimens in the case of toxicity, or to replace failing regimens. The Committee strongly recommends the use of three- or four-drug combinations as specifically recommended in the WHO treatment guidelines. The use of fixed dose preparations for these combinations is also recommended, with assured pharmaceutical quality and interchangeability with the single products as approved by the relevant drug regulatory authority.</p> |   |
| <i>6.4.2.1 Nucleoside reverse transcriptase inhibitors</i>   |   |
| abacavir (ABC)   | tablet, 300mg (as sulfate), oral solution, 100mg (as sulfate)/5ml   |
| didanosine (ddI)   | buffered chewable, dispersible tablet, 25mg, 50mg, 100mg, 150mg, 200mg<br>buffered powder for oral solution, 100mg, 167mg, 250mg packets<br>unbuffered enteric coated capsule, 125mg, 200mg, 250mg, 400mg |
| lamivudine (3TC)   | tablet, 150mg, oral solution 50 mg/5ml  |
| stavudine (d4T)  | capsule 15mg, 20mg, 30mg, 40mg, powder for oral solution, 5mg/5ml   |
| zidovudine (ZDV or AZT)  | tablet, 300mg<br>capsule 100 mg, 250 mg<br>oral solution or syrup, 50mg/5ml<br>solution for IV infusion injection, 10 mg/ml in 20-ml vial   |
| <i>6.4.2.2 Non-nucleoside reverse transcriptase inhibitors</i>   |   |
| efavirenz (EFV or EFZ)   | capsule, 50mg, 100mg, 200mg   |

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|   | oral solution, 150mg/5ml  |
| nevirapine (NVP)  | tablet 200 mg; oral suspension 50 mg/5-ml   |
| <i>6.4.2.3 Protease inhibitors</i>  |   |
| Selection of two or three protease inhibitors from the Model List will need to be determined by each country after consideration of local treatment guidelines and experience, as well as the comparative costs of available products. Ritonavir is recommended for use in combination with indinavir, lopinavir and saquinavir as a booster, and not as a drug in its own right. |   |
| indinavir (IDV)   | capsule, 200mg, 333mg, 400mg (as sulfate)   |
| ritonavir   | capsule, 100mg, oral solution 400mg/5ml   |
| lopinavir + ritonavir (LPV/r)   | capsule, 133.3mg + 33.3mg, oral solution, 400mg + 100mg/5ml   |
| nelfinavir (NFV)  | tablet, 250mg (as mesilate), oral powder 50mg/g   |
| saquinavir (SQV)  | capsule, 200mg  |
| <b>6.5 Antiprotozoal medicines</b>  |   |
| <i>6.5.1 Antiamoebic and anti giardiasis medicines</i>  |   |
| diloxanide  | tablet, 500 mg (furoate)  |
| <input type="checkbox"/> metronidazole  | tablet, 200-500 mg; injection, 500 mg in 100-ml vial; oral suspension 200 mg (as benzoate)/5 ml   |
| <i>6.5.2 Antileishmaniasis medicines</i>  |   |
| <input type="checkbox"/> meglumine antimoniate  | injection, 30%, equivalent to approximately 8.1% antimony, in 5-ml ampoule  |
| <i>Complementary List</i>   |   |
| <i>amphotericin B</i>   | powder for injection, 50 mg in vial   |
| <i>pentamidine</i>  | powder for injection, 200 mg, 300 mg (isetionate) in vial   |
| <i>6.5.3 Antimalarial medicines</i>   |   |
| <i>6.5.3.1 For curative treatment</i>   |   |
| Medicines for the treatment of <i>P. falciparum</i> malaria cases should be used in combination.  |   |
| amodiaquine *   | tablet, 153 mg or 200 mg (base)<br>* amodiaquine should preferably be used as part of combination therapy   |
| artemether + lumefantrine *   | tablet, 20 mg + 120 mg<br>* recommended for use in areas with significant drug resistance and not in pregnancy or in children below 10kg                                  |
| chloroquine   | tablet 100 mg, 150 mg (as phosphate or sulfate); syrup, 50 mg (as phosphate or sulfate)/5 ml; injection 40 mg (as hydrochloride, phosphate or sulfate)/ml in 5-ml ampoule |
| primaquine  | tablet, 7.5 mg, 15 mg (as diphosphate)  |
| quinine   | tablet, 300 mg (as bisulfate or sulfate); injection, 300 mg (as dihydrochloride)/ml in 2-ml ampoule   |
| <i>Complementary List</i>   |   |

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| <i>artemether</i>  | injection, 80 mg/ml in 1-ml ampoule  |
| <i>artesunate</i>  | tablet, 50 mg  |
| <i>doxycycline</i>   | capsule or tablet, 100 mg (hydrochloride)<br>(for use only in combination with quinine)  |
| <i>mefloquine</i>  | tablet, 250 mg (as hydrochloride)  |
| <i>sulfadoxine + pyrimethamine</i>                               | tablet, 500 mg + 25 mg   |
| <b>6.5.3.2 For prophylaxis</b>                                   |  |
| chloroquine  | tablet, 150 mg (as phosphate or sulfate); syrup, 50 mg (as phosphate or sulfate)/5 ml  |
| doxycycline  | capsule or tablet, 100 mg ( hydrochloride)   |
| mefloquine   | tablet, 250 mg (as hydrochloride)  |
| proguanil  | tablet, 100 mg (hydrochloride)<br>(for use only in combination with chloroquine)   |
| <b>6.5.4 Anti-pneumocystosis and antitoxoplasmosis medicines</b> |  |
| pyrimethamine  | tablet, 25 mg  |
| sulfamethoxazole + trimethoprim                                  | injection 80 mg + 16 mg/ml in 5-ml ampoule<br>80 mg + 16 mg/ml in 10-ml ampoule  |
| <b>Complementary List</b>  |  |
| <i>pentamidine</i>   | tablet 200 mg, 300 mg  |
| <b>6.5.5. Antitrypanosomal medicines</b>                         |  |
| <b>6.5.5.1 African trypanosomiasis</b>                           |  |
| melarsoprol  | injection, 3.6% solution   |
| suramin sodium   | powder for injection, 1 g in vial  |
| <b>Complementary List</b>  |  |
| <i>eflornithine</i>  | injection, 200 mg ( hydrochloride)/ml in 100-ml bottles  |
| <i>pentamidine</i>   | powder for injection, 200 mg, 300 mg (isetionate) in vial  |
| <b>6.5.5.2 American trypanosomiasis</b>                          |  |
| benznidazole   | tablet, 100 mg   |
| nifurtimox   | tablet, 30 mg; 120 mg; 250 mg  |
| <b>6.6 Insect repellents</b>                                     |  |
| diethyltoluamide *   | topical solution, 50%, 75%<br>* the place of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. |
| <b>7. ANTIMIGRAINE MEDICINES</b>                                 |  |
| <b>7.1 For treatment of acute attack</b>                         |  |
| acetylsalicylic acid   | tablet, 300 -500 mg  |

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| ergotamine *   | tablet, 1 mg (tartrate)<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. |
| paracetamol  | tablet, 300-500 mg  |
| <b>7.2 For prophylaxis</b>   |   |
| <input type="checkbox"/> propranolol   | tablet, 20 mg, 40 mg (hydrochloride)  |
| <b>8. ANTINEOPLASTIC, IMMUNOSUPPRESSIVES AND MEDICINES USED IN PALLIATIVE CARE</b> |   |
| <b>8.1 Immunosuppressive medicines</b>   |   |
| <i>Complementary List</i>  |   |
| <i>azathioprine</i>  | tablet, 50 mg; powder for injection, 100 mg (as sodium salt) in vial  |
| <i>ciclosporin</i>   | capsule, 25 mg; concentrate for injection 50 mg/ml in 1-ml ampoule for organ transplantation  |
| <b>8.2 Cytotoxic medicines</b>   |   |
| <i>Complementary List</i>  |   |
| <i>asparaginase</i>  | powder for injection, 10 000 IU in vial   |
| <i>bleomycin</i>   | powder for injection, 15 mg (as sulfate) in vial  |
| <i>calcium folinate</i>  | tablet, 15 mg; injection, 3 mg/ml in 10-ml ampoule  |
| <i>chlorambucil</i>  | tablet 2 mg   |
| <i>chlormethine</i>  | powder for injection, 10 mg (hydrochloride) in vial   |
| <i>cisplatin</i>   | powder for injection, 10 mg, 50 mg in vial  |
| <i>cyclophosphamide</i>  | tablet, 25 mg; powder for injection, 500 mg in vial   |
| <i>cytarabine</i>  | powder for injection, 100 mg in vial  |
| <i>dacarbazine</i>   | powder for injection, 100 mg in vial  |
| <i>dactinomycin</i>  | powder for injection, 500 micrograms in vial  |
| <i>daunorubicin</i>  | powder for injection, 50 mg (as hydrochloride)  |
| <i>doxorubicin</i>   | powder for injection, 10 mg, 50 mg (hydrochloride) in vial  |
| <i>etoposide</i>   | capsule, 100 mg; injection, 20 mg/ml in 5-ml ampoule  |
| <i>fluorouracil</i>  | injection, 50 mg/ml in 5-ml ampoule   |
| <i>levamisole</i>  | tablet, 50 mg (as hydrochloride)  |
| <i>mercaptopurine</i>  | tablet, 50 mg   |
| <i>methotrexate</i>  | tablet, 2.5 mg (as sodium salt); powder for injection, 50 mg (as sodium salt) in vial   |
| <i>procarbazine</i>  | capsule, 50 mg (as hydrochloride)   |

|   |  |
|---|--|
| <i>vinblastine</i>  | powder for injection, 10 mg (sulfate) in vial  |
| <i>vincristine</i>  | powder for injection, 1 mg, 5 mg (sulfate) in vial   |
| <b>8.3 Hormones and antihormones</b>  |  |
| <i>Complementary List</i>   |  |
| <i>dexamethasone</i>  | injection, 4 mg dexamethasone phosphate (as disodium salt) in 1-ml ampoule   |
| <i>hydrocortisone</i>   | powder for injection, 100 mg (as sodium succinate) in vial   |
| <input type="checkbox"/> <i>prednisolone</i> *  | tablet, 5 mg, 25 mg<br>* there is no evidence for complete clinical similarity between prednisolone and dexamethasone at high doses. |
| <i>tamoxifen</i>  | tablet, 10 mg, 20 mg (as citrate)  |
| <b>8.4 Medicines used in palliative care</b>  |  |
| <i>The WHO Expert Committee on the Use of Essential Drugs recommended that all the drugs mentioned in the WHO publication Cancer Pain Relief: with a Guide to Opioid Availability, second edition, be considered essential. The drugs are included in the relevant sections of the Model List, according to their therapeutic use, e.g. analgesics.</i> |  |
| <b>9. ANTIPARKINSONISM MEDICINES</b>  |  |
| <input type="checkbox"/> biperiden  | tablet, 2 mg (hydrochloride); injection, 5 mg (lactate) in 1-ml ampoule  |
| levodopa + <input type="checkbox"/> carbidopa   | tablet, 100 mg + 10 mg; 250 mg + 25 mg   |
| <b>10. MEDICINES AFFECTING THE BLOOD</b>  |  |
| <b>10.1 Antianaemia medicines</b>   |  |
| ferrous salt  | tablet, equivalent to 60 mg iron; oral solution equivalent to 25 mg iron (as sulfate)/ml   |
| ferrous salt + folic acid   | tablet equivalent to 60 mg iron + 400 micrograms folic acid ( <i>nutritional supplement for use during pregnancy.</i> )              |
| folic acid  | tablet 1mg, 5mg  |
| hydroxocobalamin  | injection, 1 mg in 1-ml ampoule  |
| <b>10.2 Medicines affecting coagulation</b>   |  |
| heparin sodium  | injection, 1000 IU/ml, 5000 IU/ml, 20,000 IU/ml in 1-ml ampoule  |
| phytomenadione  | injection, 10 mg/ml in 5-ml ampoule; tablet, 10 mg   |
| protamine sulfate   | injection, 10 mg/ml in 5-ml ampoule  |
| <input type="checkbox"/> warfarin   | tablet, 1 mg, 2 mg and 5 mg (sodium salt)  |
| <b>11. BLOOD PRODUCTS AND PLASMA SUBSTITUTES</b>  |  |
| <b>11.1 Plasma substitutes</b>  |  |
| <input type="checkbox"/> dextran 70   | injectable solution, 6%  |

|   |  |
|---|--|
| <input type="checkbox"/> polygeline *   | injectable solution, 3.5%<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee.                              |
| <b>11.2 Plasma fractions for specific use</b>   |  |
| All plasma fractions should comply with the WHO Requirements for the Collection, Processing and Quality Control of Blood, Blood Components, and Plasma Derivatives (Revised 1992). (WHO Technical Report Series, No. 840, 1994, Annex 2). |  |
| <i>Complementary List</i>   |  |
| <input type="checkbox"/> factor VIII concentrate *  | dried<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. (rare disease)                                   |
| <input type="checkbox"/> factor IX complex coagulation factors, II, VII, IX, X) concentrate *   | dried<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. (rare disease)                                   |
| <b>12. CARDIOVASCULAR MEDICINES</b>   |  |
| <b>12.1 Antianginal medicines</b>   |  |
| <input type="checkbox"/> atenolol   | tablet, 50 mg, 100 mg  |
| glyceryl trinitrate   | tablet (sublingual), 500 micrograms  |
| <input type="checkbox"/> isosorbide dinitrate   | tablet (sublingual), 5 mg  |
| verapamil   | tablet, 40 mg, 80 mg (hydrochloride)   |
| <b>12.2 Antiarrhythmic medicines</b>  |  |
| <input type="checkbox"/> atenolol   | tablet, 50 mg, 100 mg  |
| digoxin   | tablet, 62.5 micrograms, 250 micrograms; oral solution 50 micrograms/ml; injection 250 micrograms/ml in 2-ml ampoule   |
| epinephrine (adrenaline)  | injection, 1 mg (as hydrochloride)/ml in ampoule   |
| lidocaine   | injection, 20 mg (hydrochloride)/ml in 5-ml ampoule  |
| verapamil   | tablet, 40 mg, 80 mg (hydrochloride); injection, 2.5 mg (hydrochloride)/ml in 2-ml ampoule   |
| <i>Complementary List</i>   |  |
| <i>isoprenaline</i> *   | injection, 20 micrograms (hydrochloride)/ml in ampoule<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. |
| <input type="checkbox"/> procainamide*  | injection, 100 mg (hydrochloride)/ml in 10-ml ampoule<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee.  |
| <input type="checkbox"/> quinidine *  | tablet, 200 mg (sulfate)   |

|  |  |
|--|--|
|  | * the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee.   |
| <b>12.3 Antihypertensive medicines</b>       |  |
| <input type="checkbox"/> atenolol            | tablet, 50 mg, 100 mg  |
| <input type="checkbox"/> enalapril           | tablet, 2.5 mg   |
| hydralazine*                                 | tablet, 25 mg, 50 mg (hydrochloride); powder for injection, 20 mg (hydrochloride) in ampoule<br><br>* hydralazine is listed for use in the acute management of severe pregnancy-induced hypertension only. Its use in the treatment of essential hypertension is not recommended in view of the availability of more evidence of efficacy and safety of other medicines. |
| <input type="checkbox"/> hydrochlorothiazide | scored tablet, 25 mg   |
| methyldopa *                                 | tablet, 250 mg<br>* methyldopa is listed for use in the management of pregnancy-induced hypertension only. Its use in the treatment of essential hypertension is not recommended in view of the availability of more evidence of efficacy and safety of other medicines.   |
| <input type="checkbox"/> nifedipine *        | sustained release formulations, tablet 10 mg<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee.   |
| <i>Complementary List</i>                    |  |
| <i>sodium nitroprusside</i>                  | powder for infusion, 50 mg in ampoule  |
| <b>12.4 Medicines used in heart failure</b>  |  |
| digoxin                                      | tablet, 62.5 micrograms, 250 micrograms; oral solution, 50 micrograms/ml; injection, 250 micrograms/ml in 2-ml ampoule   |
| <input type="checkbox"/> enalapril           | tablet, 2.5 mg   |
| <input type="checkbox"/> hydrochlorothiazide | scored tablet, 25 mg   |
| <i>Complementary List</i>                    |  |
| <i>dopamine</i>                              | injection, 40 mg (hydrochloride) in 5-ml vial  |
| <b>12.5 Antithrombotic medicines</b>         |  |
| acetylsalicylic acid                         | tablet, 100 mg   |
| <i>Complementary List</i>                    |  |
| <i>streptokinase</i>                         | powder for injection, 1.5 million IU in vial   |
| <b>12.6 Lipid-lowering agents</b>            |  |

*The WHO Expert Committee on Use of Essential Drugs recognizes the value of lipid-lowering drugs in treating patients with hyperlipidaemia. HMG-CoA reductase inhibitors, often referred to as "statins", are a family of potent and effective lipid-lowering drugs with a good tolerability profile. Several of these drugs have been shown to reduce the incidence of fatal and non-fatal myocardial infarction, stroke and mortality (all causes), as well as the need for coronary by-pass surgery. All remain very costly but may be cost effective for secondary prevention of cardiovascular disease as well as for primary prevention in some very high-risk patients. Since no single drug has been shown to be significantly more effective or less expensive than others in the group, none is included in the Model List; the choice of drug for use in patients at highest risk should be decided at the national level.*

**13. DERMATOLOGICAL MEDICINES (topical)**

**13.1 Antifungal medicines**

|                                     |                                 |
|-------------------------------------|---------------------------------|
| benzoic acid + salicylic acid       | ointment or cream, 6% + 3%      |
| <input type="checkbox"/> miconazole | ointment or cream, 2% (nitrate) |
| sodium thiosulfate                  | solution, 15%                   |

*Complementary List*

|                         |                                |
|-------------------------|--------------------------------|
| <i>selenium sulfide</i> | detergent-based suspension, 2% |
|-------------------------|--------------------------------|

**13.2 Anti-infective medicines**

|   |  |
|---|--|
| <input type="checkbox"/> methylrosanilinium chloride (gentian violet) | aqueous solution, 0.5%; tincture, 0.5%                     |
| neomycin sulfate + <input type="checkbox"/> bacitracin                | ointment, 5 mg neomycin sulfate + 500 IU bacitracin zinc/g |
| potassium permanganate  | aqueous solution 1:10 000                                  |
| silver sulfadiazine   | cream, 1%, in 500-g container                              |

**13.3 Anti-inflammatory and antipruritic medicines**

|  |                                       |
|--|---------------------------------------|
| <input type="checkbox"/> betamethasone   | ointment or cream, 0.1% (as valerate) |
| <input type="checkbox"/> calamine lotion | lotion                                |
| <input type="checkbox"/> hydrocortisone  | ointment or cream, 1% (acetate)       |

**13.4 Astringent medicines**

|                     |                            |
|---------------------|----------------------------|
| aluminium diacetate | solution, 13% for dilution |
|---------------------|----------------------------|

**13.5 Medicines affecting skin differentiation and proliferation**

|  |                        |
|--|------------------------|
| benzoyl peroxide                           | lotion or cream, 5%    |
| coal tar                                   | solution, 5%           |
| dithranol                                  | ointment, 0.1%-2%      |
| fluorouracil                               | ointment, 5%           |
| <input type="checkbox"/> podophyllum resin | solution, 10-25%       |
| salicylic acid                             | solution 5%            |
| urea                                       | ointment or cream, 10% |

**13.6 Scabicides and pediculicides**

|   |  |
|---|--|
| <input type="checkbox"/> benzyl benzoate  | lotion, 25%  |
| permethrin  | cream 5%; lotion 1%  |
| <b>13.7 Ultraviolet blocking agents</b>   |  |
| <i>Complementary List</i>   |  |
| <i>topical sun protection agent with activity against ultraviolet A and ultraviolet B *</i> | cream, lotion or gel<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. |
| <b>14. DIAGNOSTIC AGENTS</b>  |  |
| <b>14.1 Ophthalmic medicines</b>  |  |
| fluorescein   | eye drops, 1% (sodium salt)  |
| <input type="checkbox"/> tropicamide  | eye drops, 0.5%  |
| <b>14.2 Radiocontrast media</b>   |  |
| <input type="checkbox"/> amidotrizoate  | injection, 140-420 mg iodine (as sodium or meglumine salt)/ml in 20-ml ampoule   |
| barium sulfate  | aqueous suspension   |
| <input type="checkbox"/> iohexol  | injection 140 –350 mg iodine/ml in 5-ml, 10-ml and 20-ml ampoule   |
| <input type="checkbox"/> iopanoic acid  | tablet, 500 mg   |
| <input type="checkbox"/> propylidone  | oily suspension, 500-600 mg/ml in 20-ml ampoule ( <i>For administration only into the bronchial tree.</i> )  |
| <i>Complementary List</i>   |  |
| <input type="checkbox"/> meglumine iotroxate  | solution, 5-8 g iodine in 100-250 ml   |
| <b>15. DISINFECTANTS AND ANTISEPTICS</b>  |  |
| <b>15.1 Antiseptics</b>   |  |
| <input type="checkbox"/> chlorhexidine  | solution, 5% ( digluconate) for dilution   |
| <input type="checkbox"/> ethanol  | solution, 70% (denatured)  |
| <input type="checkbox"/> polyvidone iodine  | solution, 10%  |
| <b>15.2 Disinfectants</b>   |  |
| <input type="checkbox"/> chlorine base compound   | powder (0.1% available chlorine) for solution  |
| <input type="checkbox"/> chloroxylenol  | solution, 4.8%   |
| glutaral  | solution, 2%   |
| <b>16. DIURETICS</b>  |  |
| amiloride   | tablet, 5 mg (hydrochloride)   |
| <input type="checkbox"/> furosemide   | tablet, 40 mg; injection, 10 mg/ml in 2-ml ampoule   |

|   |   |
|---|---|
| <input type="checkbox"/> hydrochlorothiazide  | scored tablet, 25 mg  |
| mannitol  | injectable solution, 10%, 20%   |
| spironolactone  | tablet, 25 mg   |
| <b>17. GASTROINTESTINAL MEDICINES</b>   |   |
| <b>17.1 Antacids and other antiulcer medicines</b>                                      |   |
| aluminium hydroxide   | tablet, 500 mg; oral suspension, 320 mg/5 ml  |
| <input type="checkbox"/> ranitidine   | tablet, 150 mg (as hydrochloride); oral solution 75 mg/5-ml;<br>injection, 25 mg/ml in 2-ml ampoule   |
| magnesium hydroxide   | oral suspension, equivalent to 550 mg magnesium oxide/10 ml   |
| <b>17.2 Antiemetic medicines</b>  |   |
| metoclopramide  | tablet, 10 mg (hydrochloride); injection, 5 mg (hydrochloride)/ml in 2-ml ampoule   |
| promethazine  | tablet, 10 mg, 25 mg (hydrochloride); elixir or syrup, 5 mg (hydrochloride)/5 ml; injection, 25 mg (hydrochloride)/ml in 2-ml ampoule   |
| <b>17.3 Antihaemorrhoidal medicines</b>   |   |
| <input type="checkbox"/> local anaesthetic, astringent and anti-inflammatory medicine * | ointment or suppository<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee.   |
| <b>17.4 Anti-inflammatory medicines</b>   |   |
| <input type="checkbox"/> sulfasalazine  | tablet, 500 mg; suppository 500 mg; retention enema   |
| <i>Complementary List</i>   |   |
| <input type="checkbox"/> hydrocortisone   | suppository 25 mg (acetate); retention enema<br>(the <input type="checkbox"/> only applies to hydrocortisone retention enema)   |
| <b>17.5 Antispasmodic medicines</b>   |   |
| <input type="checkbox"/> atropine *   | tablet, 1 mg (sulfate); injection, 1 mg (sulfate) in 1-ml ampoule<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. |
| <b>17.6 Laxatives</b>   |   |
| <input type="checkbox"/> senna  | tablet, 7.5 mg (sennosides) (or traditional dosage forms)   |
| <b>17.7 Medicines used in diarrhoea</b>   |   |
| <i>17.7.1 Oral rehydration</i>  |   |
| oral rehydration salts * (for glucose-electrolyte solution)                             | glucose: 75 mEq<br>sodium: 75 mEq or mmol/l<br>chloride: 65 mEq or mmol/l<br>potassium: 20 mEq or mmol/l<br>citrate: 10 mmol/l  |

|  |   |
|--|---|
|  | <p>osmolarity: 245 mOsm/l</p> <p>glucose: 13.5 g/l</p> <p>sodium chloride: 2.6 g/l</p> <p>potassium chloride: 1.5 g/l</p> <p>trisodium citrate dihydrate+: 2.9 g/l</p> <p>+ trisodium citrate dihydrate may be replaced by sodium hydrogen carbonate (sodium bicarbonate) 2.5 g/l. However, as the stability of this latter formulation is very poor under tropical conditions, it is only recommended when manufactured for immediate use.</p> <p>* in cases of cholera a higher concentration of sodium may be required</p> |
| <b>17.7.2 Antidiarrhoeal (symptomatic) medicines</b>                                       |   |
| codeine *  | <p>tablet, 30 mg (phosphate)</p> <p>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee.</p>  |
| <b>18. HORMONES, OTHER ENDOCRINE MEDICINES AND CONTRACEPTIVES</b>                          |   |
| <b>18.1 Adrenal hormones and synthetic substitutes</b>                                     |   |
| Addison's disease is a rare condition; adrenal hormones are already included in section 3. |   |
| <b>18.2 Androgens</b>  |   |
| <i>Complementary List</i>  |   |
| testosterone   | injection, 200 mg (enantate) in 1-ml ampoule  |
| <b>18.3 Contraceptives</b>   |   |
| <i>18.3.1 Hormonal contraceptives</i>  |   |
| <input type="checkbox"/> ethinylestradiol + <input type="checkbox"/> levonorgestrel        | tablet, 30 micrograms + 150 micrograms  |
| <input type="checkbox"/> ethinylestradiol + <input type="checkbox"/> norethisterone        | tablet, 35 micrograms + 1.0 mg  |
| levonorgestrel   | tablet, 30 micrograms, 750 micrograms (pack of two), 1.5 mg   |
| norethisterone enantate  | oily solution, 200 mg/ml in 1-ml ampoule  |
| <i>Complementary List</i>  |   |
| medroxyprogesterone acetate  | depot injection, 150 mg/ml in 1-ml vial   |
| <i>18.3.2 Intrauterine devices</i>   |   |
| copper-containing device   |   |
| <i>18.3.3 Barrier methods</i>  |   |
| condoms  |   |
| diaphragms   |   |
| <b>18.4 Estrogens</b>  |   |
| <input type="checkbox"/> ethinylestradiol  | tablet, 10 micrograms, 50 micrograms  |
| <b>18.5 Insulins and other antidiabetic agents</b>   |   |

|   |  |
|---|--|
| glibenclamide   | tablet, 2.5 mg, 5 mg   |
| insulin injection (soluble)   | injection, 40 IU/ml in 10-ml vial, 100 IU/ml in 10-ml vial   |
| intermediate-acting insulin   | injection, 40 IU/ml in 10 ml vial; 100 IU/ml in 10 ml vial (as compound insulin zinc suspension or isophane insulin)   |
| metformin   | tablet, 500 mg (hydrochloride)   |
| <b>18.6 Ovulation inducers</b>  |  |
| <i>Complementary List</i>   |  |
| clomifene   | tablet, 50 mg (citrate)  |
| <b>18.7 Progestogens</b>  |  |
| norethisterone  | tablet, 5 mg   |
| <i>Complementary List</i>   |  |
| medroxyprogesterone acetate *   | tablet, 5 mg<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. |
| <b>18.8 Thyroid hormones and antithyroid medicines</b>  |  |
| levothyroxine   | tablet, 50 micrograms, 100 micrograms (sodium salt)  |
| potassium iodide  | tablet, 60 mg  |
| <input type="checkbox"/> propylthiouracil   | tablet, 50 mg  |
| <b>19. IMMUNOLOGICALS</b>   |  |
| <b>19.1 Diagnostic agents</b>   |  |
| All tuberculins should comply with the WHO Requirements for Tuberculins (Revised 1985). WHO Expert Committee on Biological Standardization Thirty-sixth report, (WHO Technical Report Series, No. 745, 1987, Annex 1).  |  |
| tuberculin, purified protein derivative (PPD)   | injection  |
| <b>19.2 Sera and immunoglobulins</b>  |  |
| All plasma fractions should comply with the WHO Requirements for the Collection, Processing and Quality Control of Blood, Blood Components and Plasma Derivatives (Revised 1992). WHO Expert Committee on Biological Standardization Forty-third report, (WHO Technical Report Series, No. 840, 1994, Annex 2). |  |
| anti-D immunoglobulin (human)   | injection, 250 micrograms in single-dose vial  |
| antitetanus immunoglobulin (human)  | injection, 500 IU in vial  |
| antivenom serum *   | injection<br>* exact type to be defined locally  |
| diphtheria antitoxin  | injection, 10 000 IU, 20 000 IU in vial  |
| <input type="checkbox"/> rabies immunoglobulin  | injection, 150 IU/ml in vial   |
| <b>19.3 Vaccines</b>  |  |

|   |  |
|---|--|
| All vaccines should comply with the WHO Requirements for Biological Substances. |  |
| <i>19.3.1 For universal immunization</i>  |  |
| BCG vaccine   |  |
| diphtheria vaccine  |  |
| hepatitis B vaccine   |  |
| measles vaccine   |  |
| pertussis vaccine   |  |
| poliomyelitis vaccine   |  |
| tetanus vaccine   |  |
| <i>19.3.2 For specific groups of individuals</i>                                |  |
| influenza vaccine   |  |
| meningococcal meningitis vaccine  |  |
| mumps vaccine   |  |
| rabies vaccine (inactivated: prepared in cell culture)                          |  |
| rubella vaccine   |  |
| typhoid vaccine   |  |
| yellow fever vaccine  |  |
| <b>20. MUSCLE RELAXANTS (PERIPHERALLY ACTING) AND CHOLINESTERASE INHIBITORS</b> |  |
| <input type="checkbox"/> alcuronium   | injection, 5 mg (chloride)/ml in 2-ml ampoule  |
| neostigmine   | tablet, 15 mg (bromide); injection, 500 micrograms in 1-ml ampoule; 2.5 mg (metilsulfate) in 1-ml ampoule  |
| suxamethonium   | injection, 50 mg (chloride)/ml in 2-ml ampoule; powder for injection (chloride), in vial   |
| <i>Complementary List</i>   |  |
| <i>pyridostigmine</i>   | tablet, 60 mg (bromide); injection, 1 mg in 1-ml ampoule   |
| <i>vecuronium</i>   | powder for injection, 10 mg (bromide) in vial  |
| <b>21. OPHTHALMOLOGICAL PREPARATIONS</b>  |  |
| <b>21.1 Anti-infective agents</b>   |  |
| <input type="checkbox"/> gentamicin *   | solution (eye drops), 0.3% (sulfate)<br>* final selection depends on indication for use  |
| <input type="checkbox"/> idoxuridine  | solution (eye drops), 0.1%; eye ointment, 0.2%   |
| silver nitrate *  | solution (eye drops), 1%<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be |

|   |   |
|---|---|
|   | reviewed at the next meeting of the Expert Committee.   |
| <input type="checkbox"/> tetracycline                                 | eye ointment, 1% (hydrochloride)  |
| <b>21.2 Anti-inflammatory agents</b>                                  |   |
| <input type="checkbox"/> prednisolone                                 | solution (eye drops), 0.5% (sodium phosphate)   |
| <b>21.3 Local anaesthetics</b>  |   |
| <input type="checkbox"/> tetracaine                                   | solution (eye drops), 0.5% (hydrochloride)  |
| <b>21.4 Miotics and antiglaucoma medicines</b>                        |   |
| acetazolamide   | tablet, 250 mg  |
| <input type="checkbox"/> pilocarpine                                  | solution (eye drops), 2%, 4% (hydrochloride or nitrate)   |
| <input type="checkbox"/> timolol                                      | solution (eye drops), 0.25%, 0.5% (as maleate)  |
| <b>21.5 Mydriatics</b>  |   |
| atropine  | solution (eye drops), 0.1%; 0.5%, 1% (sulfate)  |
| <i>Complementary List</i>   |   |
| <i>epinephrine (adrenaline)</i>                                       | solution (eye drops), 2% (as hydrochloride)   |
| <b>22. OXYTOCICS AND ANTIOXYTOCICS</b>                                |   |
| <b>22.1 Oxytocics</b>   |   |
| <input type="checkbox"/> ergometrine *                                | tablet, 200 micrograms (hydrogen maleate); injection, 200 micrograms (hydrogen maleate) in 1-ml ampoule<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. |
| oxytocin  | injection, 10 IU in 1-ml ampoule  |
| <b>22.2 Antioxytocics</b>   |   |
| <input type="checkbox"/> salbutamol *                                 | tablet, 4 mg (as sulfate); injection, 50 micrograms (as sulfate)/ml in 5-ml ampoule<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee.                     |
| <b>23. PERITONEAL DIALYSIS SOLUTION</b>                               |   |
| <i>Complementary List</i>   |   |
| <i>intraperitoneal dialysis solution (of appropriate composition)</i> | parenteral solution   |
| <b>24. PSYCHOTHERAPEUTIC MEDICINES</b>                                |   |
| <b>24.1 Medicines used in psychotic disorders</b>                     |   |
| <input type="checkbox"/> chlorpromazine                               | tablet, 100 mg (hydrochloride); syrup, 25 mg (hydrochloride)/5ml; injection, 25 mg (hydrochloride)/ml in 2-ml ampoule   |
| <input type="checkbox"/> fluphenazine                                 | injection, 25 mg (decanoate or enantate) in 1-ml ampoule  |

|   |  |
|---|--|
| <input type="checkbox"/> haloperidol  | tablet, 2 mg, 5 mg; injection, 5 mg in 1-ml ampoule  |
| <b>24.2 Medicines used in mood disorders</b>                                    |  |
| <i>24.2.1 Medicines used in depressive disorders</i>                            |  |
| <input type="checkbox"/> amitriptyline  | tablet, 25 mg (hydrochloride)  |
| <i>24.2.2 Medicines used in bipolar disorders</i>                               |  |
| carbamazepine   | scored tablet, 100 mg, 200 mg  |
| lithium carbonate   | capsule or tablet, 300 mg  |
| valproic acid   | enteric coated tablet, 200 mg, 500 mg (sodium salt)  |
| <b>24.3 Medicines used in generalized anxiety and sleep disorders</b>           |  |
| <input type="checkbox"/> diazepam   | scored tablet, 2 mg, 5 mg  |
| <b>24.4 Medicines used for obsessive compulsive disorders and panic attacks</b> |  |
| clomipramine  | capsules, 10 mg, 25 mg (hydrochloride)   |
| <b>25. MEDICINES ACTING ON THE RESPIRATORY TRACT</b>                            |  |
| <b>Antiasthmatic and medicines for chronic obstructive pulmonary disease</b>    |  |
| <input type="checkbox"/> beclometasone  | inhalation (aerosol), 50 micrograms per dose (dipropionate); 250 micrograms (dipropionate) per dose  |
| epinephrine (adrenaline)  | injection, 1 mg (as hydrochloride or hydrogen tartrate) in 1-ml ampoule  |
| ipratropium bromide   | inhalation (aerosol), 20 micrograms/metered dose   |
| <input type="checkbox"/> salbutamol   | tablet, 2 mg, 4 mg (as sulfate); inhalation (aerosol), 100 micrograms (as sulfate) per dose; syrup, 2 mg/5 ml; injection, 50 micrograms (as sulfate)/ml in 5-ml ampoule; respirator solution for use in nebulizers, 5 mg (as sulfate)/ml                 |
| theophylline *  | tablet, 100 mg, 200 mg, 300 mg<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee.                     |
| <i>Complementary List</i>   |  |
| <input type="checkbox"/> aminophylline *  | injection, 25 mg/ml in 10 ml ampoule<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee.               |
| <input type="checkbox"/> cromoglicic acid *                                     | inhalation (aerosol), 20 mg (sodium salt) per dose<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee. |
| <b>26. SOLUTIONS CORRECTING WATER, ELECTROLYTE AND ACID-BASE DISTURBANCES</b>   |  |
| <b>26.1 Oral</b>  |  |

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| oral rehydration salts (for glucose-electrolyte solution)  | see section 17.7.1  |
| potassium chloride   | powder for solution   |
| <b>26.2 Parenteral</b>                                     |   |
| glucose  | injectable solution, 5%, 10% isotonic; 50% hypertonic   |
| glucose with sodium chloride                               | injectable solution, 4% glucose, 0.18% sodium chloride (equivalent to Na <sup>+</sup> 30 mmol/l, Cl <sup>-</sup> 30 mmol/l)   |
| potassium chloride   | solution, 11.2% in 20-ml ampoule, (equivalent to K <sup>+</sup> 1.5 mmol/ml, Cl <sup>-</sup> 1.5 mmol/ml)   |
| sodium chloride  | injectable solution, 0.9% isotonic (equivalent to Na <sup>+</sup> 154 mmol/l, Cl <sup>-</sup> 154 mmol/l)   |
| sodium hydrogen carbonate                                  | injectable solution, 1.4% isotonic (equivalent to Na <sup>+</sup> 167 mmol/l, HCO <sub>3</sub> <sup>-</sup> 167 mmol/l); solution, 8.4% in 10-ml ampoule (equivalent to Na <sup>+</sup> 1000 mmol/l, HCO <sub>3</sub> <sup>-</sup> 1000 mmol/l)         |
| <input type="checkbox"/> sodium lactate, compound solution | injectable solution   |
| <b>26.3 Miscellaneous</b>                                  |   |
| water for injection  | 2-ml, 5-ml, 10-ml ampoules  |
| <b>27. VITAMINS AND MINERALS</b>                           |   |
| ascorbic acid  | tablet, 50 mg   |
| <input type="checkbox"/> ergocalciferol                    | capsule or tablet, 1.25 mg (50 000 IU); oral solution, 250 micrograms/ml (10 000 IU/ml)   |
| iodine   | iodized oil, 1 ml (480 mg iodine), 0.5 ml (240 mg iodine) in ampoule (oral or injectable); 0.57 ml (308 mg iodine) in dispenser bottle; capsule, 200 mg.  |
| <input type="checkbox"/> nicotinamide                      | tablet, 50 mg   |
| pyridoxine   | tablet, 25 mg (hydrochloride)   |
| retinol  | sugar-coated tablet, 10 000 IU (as palmitate) (5.5 mg); capsule, 200 000 IU (as palmitate) (110 mg); oral oily solution 100 000 IU (as palmitate)/ml in multidose dispenser; water-miscible injection 100 000 IU (as palmitate) (55 mg) in 2-ml ampoule |
| riboflavin   | tablet, 5 mg  |
| <input type="checkbox"/> sodium fluoride *                 | in any appropriate formulation<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be reviewed at the next meeting of the Expert Committee.                    |
| thiamine   | tablet, 50 mg (hydrochloride)   |
| <i>Complementary List</i>                                  |   |
| <i>calcium gluconate *</i>                                 | injection, 100 mg/ml in 10-ml ampoule<br>* the public health relevance and/or efficacy and/or safety of this item has been questioned and its continued inclusion on the list will be   |

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|  | reviewed at the next meeting of the Expert Committee. |
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