



## Essential medicines suggested to be used by international agencies in DPR Korea (revised Feb 2003)

The list does not cover all the medicines included in a national list of essential medicines, but centers on the most life-saving and essential medicines. The 12th WHO Model List of Essential Medicine, April 2002 has served as the basis, and all medicines and commodities included are from this list. The original list was prepared by WHO, UNICEF and IFRC in DPRK in June 1999, and was revised in June 2002 in consultation with Ministry of Public Health. UNFPA has also contributed to the development of the revised list. Some further minor revisions were made in February 2003. The list does not necessarily represent the decisions or the stated policy of these agencies. A manual on use of essential medicines in Korean has been made by the same agencies and includes information about most of the medicines in this list. An update version of the manual is expected during in 2003, and will include information about all medicines included in this list based on the WHO Model Formulary 2002.

The intention is that the list may provide guidance to international agencies that will provide assistance of essential medicine to DPR Korea. An indication has been given of what level of distribution that is deemed appropriate for the various medicines. The list does not provide any guidance on the relative quantities of the medicines that are required, and this will require careful planning as some medicines are required in substantial quantities while other in small or minimal quantities. The agencies that have prepared this list can provide technical advice on composition of medicine supplies if requested

<i>Drug</i>	<i>Route of administration, dosage forms and strengths</i>	<i>Level of distribution<sup>1</sup></i>
<b>1. Anaesthetics</b>		
<b>1.1 General anaesthetics and oxygen</b>		
ketamine <sup>2</sup>	injection, 50 mg (as hydrochloride)/ml in 10-ml vial	P C
<b>1.2 Local anaesthetics</b>		
bupivacaine	Injection, 0.25%, 0.5% (hydrochloride) in vial injection for spinal anesthesia	P C
lidocaine	injection, 1%, 2% (hydrochloride) in vial	P C R
lidocaine	topical forms, 2-4% (hydrochloride)	P C R
<b>1.3 Preoperative medication and sedation for short-term procedures</b>		

<sup>1</sup> Key: P - Provincial hospital, C - County hospital, R - Ri hospital and clinic

<sup>2</sup> Only to be provided when special training are provided

atropine	injection, 1 mg (sulfate) in 1-ml ampoule	P C
diazepam	injection, 5 mg/ml in 2-ml ampoule	P C R
diazepam	tablet, 5 mg	P C
<b>2. Analgesics, antipyretics and non-steroidal anti-inflammatory drugs</b>		
<b>2.1 Non-opioids</b>		
acetylsalicylic acid	tablet, 300 mg	P C R
ibuprofen	tablet, 200 mg	P C R
paracetamol	tablet, 100-500 mg	P C R
<b>2.2 Opioid analgesics</b>		
morphine	injection, 10 mg (sulfate or hydrochloride) in 1-ml ampoule	P C
<i>Complementary drug</i>		
pethidine	injection, 50 mg (hydrochloride) in 1-ml ampoule	P C
<b>3. Antiallergics and drugs used in anaphylaxis</b>		
chlorphenamine	tablet, 4 mg (hydrogen maleate)	P C R
epinephrine	injection, 1 mg (as hydrochloride or hydrogen tartrate) in 1-ml ampoule	P C R

hydrocortisone	powder for injection, 100 mg (as sodium succinate) in vial	P C
prednisolone	tablet, 5 mg	P C R <sup>3</sup>
<b>4. Antidotes and other substances used in poisonings</b>		
atropine	injection, 1 mg (sulfate) in 1-ml ampoule	P C
<b>5. Anticonvulsants</b>		
diazepam	injection, 5 mg/ml in 2-ml ampoule (intravenous or rectal)	P C R
magnesium sulfate	injection, 500 mg/ml in 10-ml ampoule	P C
phenobarbital	tablet, 15-100 mg	P C
phenytoin	Capsule or tablet, 25 mg	PC
<b>6. Anti-infective drugs<sup>4</sup></b>		
<b>6.1 Anthelmintics</b>		

---

<sup>3</sup> Only small quantities of prednisolone should be provided to Ri-hospitals

<sup>4</sup> The full requirements of antituberculosis medicines for the whole country are from 2003 provided by Global Drug Facility/ WHO through the DOTS program, and are therefore not included in this list.

mebendazole <sup>5</sup>	chewable tablet, 500 mg	P C R
niclosamide	chewable tablet, 500 mg	P C R
<b>6.2 Antibacterials</b>		
amoxicillin	capsule or tablet, 250 mg, (anhydrous)	P C R
amoxicillin	powder for oral suspension, 125 mg (anhydrous)/ 5 ml	P C R
ampicillin	powder for injection, 500 mg (as sodium salt) in vial	P C
benzylpenicillin	powder for injection, 600 mg (= 1 million IU), 3 g (= 5 million IU) (as sodium or potassium salt) in vial	P C R
erythromycin	Capsule or table, 250 mg (as stearate or ethyl succinate)	P C R
phenoxymethylpenicillin	tablet, 250 mg (as potassium salt)	P C R
procaine benzylpenicillin	powder for injection, 1 g (= 1 million IU), 3 g (= 3 million IU)	P C
chloramphenicol	capsule, 250 mg	P C

---

<sup>5</sup> albendazole, chewable tablet, 400 mg, may replace mebendazole

chloramphenicol	powder for injection, 1 g (as sodium succinate) in vial	P C
doxycycline <sup>6</sup>	capsule or tablet, 100 mg (as hyclate)	P C R
gentamicin	injection, 10 mg, 40 mg (as sulfate)/ml in 2-ml vial	P C
metronidazole	tablet, 200, 500 mg	P C R
sulfamethoxazole+trimethoprim	tablet, 100mg+20mg, 400mg+80mg	P C R
<b>6.4 Antifungal drugs</b>		
Nystatin	tablet, 100 000 IU, 500 000 IU	P C
nystatin	pessary, 100 000 IU	P C R
<b>6.5 Antimalarial drugs</b>		
chloroquine	tablet, 100mg, 150 mg (as phosphate or sulfate)	P C R
primaquine <sup>8</sup>	tablet, 7.5 mg, 15 mg (as diphosphate)	P C R
<b>7. Drugs affecting the blood</b>		
Ferrous salt + folic acid	tablet, 60 mg + 0.25 mg	P C R

---

<sup>6</sup> Doxycycline has a more favourable pharmacokinetic profile than tetracycline, but tetracycline may also be used

folic acid	tablet, 1 mg, 5 mg	P C R
<b>8. Blood products and plasma substitutes</b>		
polygeline	injectable solution, 3.5%	P
<b>9. Cardiovascular drugs</b>		
<b>9.1 Antianginal drugs</b>		
glyceryl trinitrate	tablet (sublingual), 500 µg	P C R
atenolol <sup>7</sup>	tablet, 50 mg	P C
<b>9.1 Antihypertensive drugs</b>		
propranolol <sup>9</sup>	tablet, 40 mg,	P C
hydralazine	powder for injection, 20 mg (hydrochloride) in ampoule	P C
hydralazine	tablet, 25 mg	P C
hydrochlorothiazide	scored tablet, 25 mg	P C R
nifedipine	capsule or tablet, 10 mg	P C
<b>9.2 Cardiac glycosides</b>		

---

<sup>7</sup> propranolol tablet, 40 mg , is commonly used in DPRK, but atenolol is a better choice from a pharmacological point of view as it acts specifically on the heart and is longer acting and better tolerated than propranolol,

Digoxin	tablet, 0.25 mg	P C R
<b>10. Dermatological drugs (topical)</b>		
<b>10.1 Antifungal drugs</b>		
Benzoic acid + salicylic acid	ointment or cream, 6% + 3%	P C R
<b>10.2 Anti-infective drugs</b>		
neomycin + bacitracin	ointment, 5 mg neomycin sulfate + 500 IU bacitracin zinc/g	P C R
Gentian violet	powder for aqueous solution	P C R
potassium permanganate	Aqueous solution, 1:10 000	P C R
silver sulfadiazine	Cream, 1%, in 500-g container	P C
<b>10.3 Scabicides and pediculicides</b>		
benzyl benzoate	lotion, 25%	P C R
<b>10.4 Complementary drugs</b>		
zinc oxide	cream or ointment	P C R
<b>11. Disinfectants and antiseptics</b>		

<b>11.1 Antiseptics</b>		
chlorhexidine	solution, 5% (digluconate) for dilution	P C R
polyvidone iodine	solution, 10%	P C R
<b>12. Diuretics</b>		
furosemide	tablet, 40 mg	P C R
furosemide	injection, 10 mg/ml in 2-ml ampoule	P C R
hydrochlorothiazide	scored tablet, 25 mg	P C
<b>13. Gastrointestinal drugs</b>		
<b>13.1 Antacids and other antiulcer drugs</b>		
aluminium hydroxide	tablet, 500 mg	P C R
cimetidine	tablet, 200 mg	P C
<b>13.2 Antiemetic drugs</b>		
promethazine	injection, 25 mg (hydrochloride)/ml in 2-ml ampoule	P C
<b>13.3 Drugs used in diarrhoea</b>		

oral rehydration salts (for glucose-electrolyte solution)	powder, 27.9 g/l	P C R
	Components	g/litre
	sodium chloride	3.5
	trisodium citrate dihydrate	2.9
	potassium chloride	1.5
	glucose	20.0
14. Hormones, other Endocrine Drugs and Contraceptives		
14.1 Adrenal hormones and synthetic substitutes		
hydrocortisone	powder for injection, 100 mg (as sodium succinate) in vial	P C
prednisolone	tablet, 5 mg	P C R <sup>8</sup>
14.2 Hormonal contraceptives		
ethinylestradiol + levonorgestrel	tablet, 30 µg + 150 µg	P C R
14.3 Intrauterine devices		
Copper-containing device		<u>PC</u>
14.4 Barrier methods		
Condoms with or without spermicide (nonoxinol)		P C R

---

<sup>8</sup> Only small quantities of prednisolone should be provided to Ri-hospitals

<b>14.5 Antidiabetic agents</b>		
glibenclamide	tablet, 2.5 mg	P C
Insulin injection (soluble)	40 IU/ml in 10- ml vial	PC
Intermediate-acting insulin	40 IU/ml in 10-ml vial (as compound insulin zinc suspension or isophane insulin)	P C
<b>15. Ophthalmological preparations</b>		
<b>15.1 Anti-infective agents</b>		
tetracycline	eye ointment, 1% (hydrochloride)	P C R
<b>16. Oxytocics and antioxytocics</b>		
<b>16.1 Oxytocics</b>		
oxytocin	injection, 10 IU in 1-ml ampoule	P C R
<b>17.2 Antioxytocics</b>		
salbutamol	tablet, 4 mg (as sulfate)	P C
<b>18. Psychotherapeutic drug</b>		
<b>18.1 Drugs used in psychotic disorders</b>		
chlorpromazine	tablet, 100 mg (hydrochloride)	P C R

chlorpromazine	injection, 25 mg (hydrochloride)/ml in 2-ml ampoule	P C
<b>19. Drugs acting on the respiratory tract</b>		
<b>19.1 Antiasthmatic drugs</b>		
aminophylline	injection, 25 mg/ml in 10-ml ampoule	P C R
salbutamol	tablet, 4 mg (as sulfate)	P C R
salbutamol	injection, 50 µg(as sulfate) /ml in 5-ml ampoule	P C R
<b>20. Solutions correcting water, electrolyte and acid-base disturbances</b>		
<b>20.1 Oral</b>		
oral rehydration salts (for glucose-electrolyte solution)	For composition, see 13.3	P C R
<b>20.2 Parenteral</b>		
Glucose	injectable solution, 50% hypertonic	P C
Glucose	injectable solution, 5% isotonic	P C
potassium chloride	11.2% solution in 20-ml ampoule (equivalent to K <sup>+</sup> 1.5 mmol/ml, Cl <sup>-</sup> 1.5 mmol/ml)	P C
Sodium chloride	injectable solution, 0.9% isotonic (equivalent to Na <sup>+</sup> 154 mmol/l, Cl <sup>-</sup> 154mmol/l)	P C

<b>21. Vitamins and minerals</b>		
multivitamin	tablet	P C R
pyridoxine	tablet, 25 mg (hydrochloride)	P C
Retinol	sugar-coated tablet, 10 000 IU (as retinyl palmitate 5.5 mg)	P C R
Retinol	capsule, 100 000 IU (as retinyl palmitate 55 mg), 200 000 IU (as palmitate, 110 mg)	P C
<i>Complementary drug</i>		
Calcium gluconate	injection, 100 mg/ml in 10-ml ampoule	P C

**10 February 2003**

**For further information:**

**World Health Organization**

**Munsudong, Pyongyang**

**DPR Korea**

**Phone: 850-2-381 7914**

**Fax: 850-2-381 7916**

**E-mail: [WR@whodprk.org](mailto:WR@whodprk.org)**