

**DZHEZKAZGAN OBLAST**  
**DRUG FORMULARY**

PREPARED BY THE  
PHARMACY AND THERAPEUTICS COMMITTEE  
OF DZHEZKAZGAN OBLAST

MD, Chairman

in accordance with the approval of the Head of Oblast  
Health Care Department  
Rahimbekov MD

December 1995

## THE DRUG FORMULARY SYSTEM

The drug formulary was prepared by the Pharmacy and Therapeutics Committee and approved by the Head of Oblast Health Care Department. Formulary drugs are listed as follows:

- **Alphabetical listing of drugs by generic or international nonproprietary name.**
- **Alphabetical listing of drugs by generic name cross referenced by brand name.**
- **Alphabetical listing of drugs by brand name cross referenced by generic name.**

The drug formulary system is the accepted method whereby the physicians of Zhezkazgan oblast, working through the Pharmacy and Therapeutics Committee, evaluates, appraises and selects from numerous medicinal agents that are considered most useful in patient care.

Under the formulary system, physicians agree in each instance in which a drug is prescribed by trade or brand name that they are authorizing the hospital pharmacy to dispense the identical drug under its generic or international nonproprietary name.

Special thanks to the following medical department heads and members of the Pharmacy and Therapeutics committee for their consultation in helping prepare the drug formulary.

- Head Doctor of the Oblast Hospital      Musagulov E.Sh.
- Pharmacist-Manager                              Kubasheva M.S.
- Pharmacist-Organizer                            Moldagalieva B.M.
- Chief of Physician's Committee              Nurlibaev A.K.
- Director of "Medstandart"                    Ermekbaeva R.A.
- Chief Surgeon                                        Idrisov B.K.
- Chief Gynecologist                                Sizdikova B.K.
- Chief Cardiologist                                 Abzalova R.A.
- Chief Psychiatrist                                 Te S.G.
- Chief Oncologist                                    Kanapin T.G.

Prepared in cooperation with the ZdravReform Program.

With special thanks to:

John Kaufman, Pharmaceutical Consultant  
Kelesbek A. Abdoulin, Clinical Pharmacologist  
Grace Hafner, Pharmacy Educator, Project Hope  
Damilya Nugmanova, Medical Consultant  
Talgat Nurgozhin, Clinical Pharmacologist  
Altai Karakulov. Consultant

## **TABLE OF CONTENTS**

	<b>Page No</b>
<b>Introduction</b>	I-IX
The drug Formulary system	I
Table of contents	III
Basic principles for inclusion of a drug on the drug Formulary	IV
Donated drugs	Y
Notes	VI
 <b>Annex A</b>	 X-XXIV
Drug Formulary, Shymkent hospital N 2	
 <b>Annex B</b>	
Pharmacy and Therapeutic Committee	XXV- XXVI
Purposes	XXV
Organization and operation	XXV
Functions and scope	XXVI
 <b>Annex C</b>	
The Drug Formulary System	XXVIII- XXXII
Definition of drug Formulary and drug Formulary system	XXVII
Guiding principles	XXVII
Guidelines on drug Formulary system management	
Principles of drug Formulary system management	
Drug use evaluation	
Formulary maintenance	
Drug product selection	

## **BASIC PRINCIPLES** **FOR INCLUSION OF A DRUG ON THE DRUG** **FORMULARY**

A major responsibility of the Pharmacy and Therapeutic Committee is the review of new drug products for possible Formulary addition. The drugs selected for Formulary addition are those agents which:

- **according to current medical knowledge, are considered desirable for optimal patient care,**
- **whose efficacy has been established, and**
- **which provide cost-effective drug therapy.**

The factors that are considered when a drug is reviewed for possible Formulary addition are listed below. Drugs which fulfill these criteria will be given serious consideration for Formulary addition.

### **1. Therapeutic effectiveness**

- If the new product provides a pharmacological approach to treatment of a specific disease where none previously existed.
- \* If the drug offers a clinically significant advantage over presently available Formulary drug products.

### **2. Adverse drug reactions**

- \* If the new product has similar therapeutic effectiveness to a Formulary drug product with less frequent or severe side effects.

### **3. Compliance and patient acceptance**

- The new product demonstrates improved compliance.
- The new product is more palatable to the patient.

### **4. Drug product cost**

- The new drug will be considered if its therapeutic effectiveness and adverse reactions are similar to a Formulary drug and significant cost savings can be demonstrated.

### **5. Other factors**

- Duplication of drug therapy should be avoided.
- Combination drugs should be used only if they offer a needed benefit over single entity drugs.

The decision to add or not to add a drug to the drug Formulary is based upon a review of all the above criteria based upon published information currently available at the time of the review.

## **DONATED DRUGS**

The following principles should be observed by donors:

- No drug should be provided that is not in the Kazakhstan list of the essential drugs.
- All drugs provided should be obtained from a reliable source.
- All drugs should have a remaining shelf life of at least 6 months.
- Labeling should be in a language that is understood locally and should include the generic name of the drug.
- No drugs should be donated that have already been issued to patients and returned to a pharmacy in the donor country.

A financial contribution should be considered instead of a drug donation since it may be cheaper to buy the drugs locally.

## **NOTES**

## **NOTES**

## **NOTES**

## **NOTES**

**ANNEX A**

**DRUG FORMULARY**  
**ZHEZHKAZGAN OBLAST**

**December 1995**

# Drug Formulary of the Zhezhkazgan Oblast

## 1. Anaesthetics

### 1.1 General anaesthetics

1	Ether, anesthetic	inhalation, 140 mg
2	Halothane	inhalation, 50mg
3	Ketamine	injection, 50mg/ml - 20ml
4	Nitrous oxide	inhalation
5	Oxygen	inhalation
6	Thiopentone sodium	powder for injections, 500mg, 1000mg

### 1.2 Local anaesthetics

1	Cocaine HCl	powder, solution, 1%, 2%, 3%, 5%
2	Lidocaine	injection, 1%, 2% in 2ml, 10ml, 20ml amp.
3	Procaine	injection, 0.25%, 0.5%, 1%, 2% - 2ml, 5ml, 10ml amp.
4	Richlocaine HCl	injection, 0.25%, 0.5%, 1%, 2% - 5ml, 10ml amp., 100ml, 200ml vial

### 1.3 Preoperative medications

1	Atropine sulfate	injection, 0.1% - 1ml in amp.
2	Diazepam	injection, 0.5% - 2ml amp.
3	Droperidol	injection, 0.25% - 5ml, 10ml amp.
4	Fentanyl	injection, 0.005% - 2ml, 5ml amp.
5	Morphine HCl	injection, 1% - 1ml amp.
6	Promethazine	tablet, 25mg; injection, 2.5% - 2ml

---

## 2. Analgesics, antipyretics, non-steroidal anti-inflammatory drugs and drugs used to treat gout

### 2.1 Non-opioids

1	Acetylsalicylic acid	tablet, 100mg, 250mg, 500mg
2	Allopurinol	tablet, 100mg
3	Diclofenac sodium	tablet, 25mg
4	Ibuprophen	tablet, 200mg
5	Indometacin	tablet, capsule, 25mg

6	Ketorolac	tablet, 10mg; injection, 1.5%, 3% - 1ml amp.
7	Paracetamol	tablet, 250mg, 500mg
8	Sulfinpyrazone	tablet, 100mg

## 2.2 Opioid analgesics

1	Codeine	tablet, 15mg
2	Fentanyl	injection, 0.005% - 2ml, 5ml amp.
3	Morphine	injection, 1% - 1ml amp.
4	Prosidol	tablet, 25mg; injection, 1% - 2ml amp.
5	Tramal	injection, 1% - 1ml amp.

---

## 3. Antiallergics and drugs used in anaphylaxis

1	Aminophylline	injection, 24% - 1ml amp.
2	Chloropyramine	tablet, 25mg; injection, 2% - 1ml amp.
3	Clemastine fumarate	tablet, 1mg; injection, 0.17% - 2ml amp.
4	Dexamethasone	tablet, 500mcg
5	Epinephrine	injection, 0.1% - 1ml amp.
6	Hydrocortisone	powder for inject., 100mg in vial
7	Prednisolone	tablet, 5mg

---

## 4. Antidotes and other substances used in poisonings

### 4.1 General

1	Charcoal, activated	tablet, 250mg; powder
---	---------------------	-----------------------

### 4.2 Specific

1	Atropine	injection, 0.1% - 1ml amp.
2	Deferoxamine	powder for injection, 500mg in amp.
3	Dimercaprol	injection, 5% - 5ml amp.
4	Dipiroxim	injection, 15% - 1ml amp.
5	Methylthionium chloride (Methylene blue)	injection, 1% - 50ml, 100ml amp.
6	Naloxone	injection, 0.04% - 1ml amp.
7	Penicillamine	tablet, capsule, 150, 250mg;

8	Physostigmine salicylate	injection, 0.1% -1ml
9	Protamine sulfate	injection, 1% - 2, 5ml amp.
10	Sodium calcium edetate	injection, 10% -20ml
11	Sodium edetate	powder for inject.
12	Sodium thiosulfate	injection, 30% - 5ml, 10ml, 50ml amp.

---

## 5. Antiepileptics

1	Carbamazepine	scored tablet, 100mg, 200mg
2	Clonazepam	tablet, 1mg
3	Diazepam	tablet, 5mg; injection, 0.5% - 2ml amp.
4	Ethosuximide	capsule, 250mg
5	Phenobarbital	tablet, 50mg, 100mg
6	Phenytoin sodium	tablet, 117mg
7	Sodium valproate	tablet, 150mg, 200mg, 300mg, 500mg; capsule, 150mg, 300mg; syrup, 50mg/ml, 300mg/ml

---

## 6. Anti-infective drugs

### 6.2 Antibacterials

1	Amoxicillin	tablet, 250mg
2	Ampicillin	tablet, 250mg; powder for suspension, 5gm/60gm; powder for injection, 250mg, 500mg in vial
3	Benzylpenicillin	powder for injection, 250000 IU, 500000 IU, 1000000 IU in vial
4	Carbenicillin	powder for injection, 1000mg
5	Cefaclor	tablet, 125mg, 250mg
6	Cefotaxime	powder for injection, 1000mg
7	Chloramphenicol	capsule, 250mg; oral suspension, 150mg/5ml
8	Clindamycin	injection, 150mg/ml;
9	Cycloserine	tablet, capsule, 250mg, 500mg, 1000mg
10	Doxycycline	tablet, capsule, 100mg; powder for injection, 100mg in amp.
11	Erythromycin	tablet, 250mg
12	Gentamicin	injection, 40mg, 80mg/ml in 2ml vial

13	Kanamycin	powder for injection, 500mg, 1000mg in vial
14	Lincomycin	injection, 30% - 1ml, 2ml amp.
15	Phenoxyethylpenicillin	tablet, 250mg; powder for oral suspension, 250mg/5ml
16	Streptomycin	injection, 250mg, 500mg, 1000mg (1mln. IU)
17	Tetracycline	tablet, capsule, 250mg

### **6.2.5 Sulfanilamides**

1	Sulfapyridazine	tablet, 500mg
2	Trimethoprim + sulfadimezine	tablet, 80mg + 400mg
3	Trimethoprim + sulfamethoxazole	tablet, 80mg + 400mg; 20mg +100mg

### **6.2.6 The synthetic anti-infective drugs**

1	Ciprofloxacin	tablet, 250mg; injection, 40mg/100ml in vial
2	Nitrofurazone	tablet, 100mg
3	Pefloxacin	tablet, 10mg; solution for injection, 10mg/5ml amp.
4	Pipermedic acid	tablet, 400mg; capsule, 200mg

### **6.3 Antifungal drugs**

1	Nystatin	ointment, cream, 100000 IU/g
---	----------	------------------------------

### **6.4 Antiprotozoal drugs**

#### **6.4.5 Drugs for treatment trichomoniasis and others**

1	Metronidazole	tablet, 250 mg
---	---------------	----------------

## **7. Antimigraine drugs**

### **7.1 For treatment of acute attack**

1	Acetylsalicylic acid	tablet, 100mg, 250mg, 500 mg
2	Ergotamine	tablet, 2 mg
3	Paracetamol	tablet, 200mg, 500 mg

### **7.2 For prophylaxis**

1	Propranolol	tablet, 10 mg, 20 mg
---	-------------	----------------------

## **8. Antineoplastic and immunosuppressant drugs and drugs used in palliative care**

### **8.1 Immunosuppressant drugs**

1	Azathioprine	tablet, 50 mg; powder for injection, 100 mg in vial
2	Cyclosporine	capsule, 25 mg; injection, 5% - 1ml.

### **8.2 Cytotoxic drugs**

1	Cyclophosphamide	tablet, 25 mg, 50 mg; powder for injection, 500 mg in vial
2	Fluorouracil	injection, 5% - 5 ml in amp.
3	Methotrexate	tablet, 25mg; injection, 5 mg in amp.

### **8.3 Hormones and antihormones**

1	Dexamethasone	tablet, 500 mcg; injection, 0.4% - 1ml amp.
2	Ethinylestradiol	tablet, 10mcg, 50 mcg
3	Prednisolone	tablet, 5 mg; injection, 25 mg in vial
4	Tamoxifen	tablet, 10 mg, 20 mg

### **8.4 Antiviral agents**

1	Interferon alfa	powder for injection, 2ml
---	-----------------	---------------------------

---

## **9. Antiparkinsonism drugs**

1	Benserazide + Levodopa	tablet, 25 mg +100 mg
2	Biperiden	tablet, 2 mg
3	Carbidopa + Levodopa	tablet, 10 mg + 100 mg, 25 mg+250 mg
4	Levodopa	tablet, 100 mg, 250 mg

---

## **10. Drugs affecting the blood**

### **10.1 Antianaemia drugs**

1. Cyanocobalamin injection, 30 mcg, 100 mcg, 200 mcg, 500 mcg
2. Ferrous sulfate capsules, 500mg, 1000mg
3. Ferrous sulfate + folic acid tablet, 60 mg + 250 mcg
4. Folic acid tablet, 1 mg, 5 mg; injection, 1mg/ml

### **10.2 Drugs affecting coagulation**

- 1 Heparin injection, 1000 IU/ml, 5000 IU/ml, 20000 IU/ml in 1ml amp.
- 2 Phenylinum tablet, 30 mg
- 3 Protamine sulfate injection, 10 mg/ml. - 5 ml in amp

### **10.3 Antifibrinolytic drugs and haemostatics**

- 1 Aminocaproic acid powder, 5g; injection, 5% - 100ml vial
- 2 Aminomethylbenzoic acid tablet, 250mg
- 3 Aprotinin powder for injections, 100000 IU, 300000 IU, 500000 IU in vials

---

## **11. Blood products and plasma substitutes**

### **11.1 Plasma substitutes**

- 1 Dextran-70 infusion, 6% - 200ml, 400ml in vial
- 2 Hemodes infusion, 6% - 100ml, 200ml, 400ml
- 3 Polyglucyn injectable solution, 200ml, 400ml

### **11.2 Plasma fractions for specific uses**

- 1 Albumin, human injectable solution, 5%, 10%, 20% - 50 ml, 100 ml

## 12. Cardiovascular drugs

### 12.1 Antianginal drugs

1	Atenolol	tablet, 50 mg, 100 mg
2	Glyceryl trinitrate	tablet, 500 mcg
3	Isosorbide dinitrate	tablet, 5 mg
4	Nifedipine	tablet, capsule, 10 mg
5	Propranolol	tablet, 10 mg, 40 mg; injection, 1 mg - 1ml, 5ml amp

### 12.2 Antidysrhythmic drugs

1	Ajmaline	tablet, 50 mg; injection, 2.5% - 2 ml in amp.
2	Amiodarone	tablet, 200 mg; injection, 150 mg - 3 ml in amp.
3	Lidocaine	injection, 1% - 10ml
4	Procainamide	tablet, 250 mg, 500mg; injection, 100mg/ml - 10ml amp.
5	Propranolol	tablet, 10 mg, 40 mg; injection, 1 mg - 1ml, 5ml amp
6	Quinidine	tablet, 200 mg
7	Verapamil	tablet, 40 mg, 80 mg; injection, 2.5 mg/ml - 2ml amp.

### 12.3 Antihypertensive drugs

1	Atenolol	tablet, 50 mg, 100 mg
2	Captopril	scored tablet, 25 mg
3	Clonidine HCl	tablet, 0.075mg - 0.3 mg; injection, 0.15 mg/1 ml in amp.
4	Diazoxide	injection, 15mg/ml - 1ml, 2ml amp.
5	Diltiazem HCl	tablet, 30mg, 60mg, 90 mg
6	Hygronium	powder for injections, 100mg
7	Nifedipine	tablet, capsule, 10 mg
8	Pentamine	injection, 5% - 2ml amp.
9	Reserpine	tablet, 100 mcg, 250 mcg; injection, 1 mg in 1ml amp
10	Sodium nitroprusside	powder for injection, 50 mg in amp.
11	Verapamil	injection, 2.5 mg/ml - 2ml amp.

### 12.4 Cardiac glycosides

1	Digitoxin	tablet, 100 mcg
2	Digoxin	tablet, 62.5mcg, 250 mcg; injection, 250 mcg/ml in 1ml amp.
3	Milrinone	injection, 200 mcg/ml

## **12.5 Drugs used in vascular shock**

1	Dobutamine	powder for injection, 100mg, 250 mg in vial
2	Dopamine	injection, 40 mg/ml - 5ml vial
3	Epinephrine	injection, 0.1% - 1ml in amp.

## **12.6 Antithrombotic drugs**

1	Acetylsalicylic acid	tablet, 100 mg
2	Streptokinase	powder for injection, 100000 IU in vial

---

# **13. Dermatological drugs**

## **13.1 Antifungal drugs**

1	Iodine	spirit solution, 5% - 20ml
2	Sodium thiosulfate	solution, 15% - 10ml, 20ml, 50ml

## **13.2 Anti-infective drugs**

1	Acricidum	solution, 0.05%, 0.2%; oinment, 5%, 10%
2	Brilliant green	spirit solution, 1%, 2% in vial
3	Methylthionium chloride (Methylene blue)	spirit solution, 1%, 3%
4	Silver sulfadiazine	cream, 1%

## **13.3 Anti-inflammatory and antipruritic drugs**

1	Betamethasone	oinment, cream, 0.1%
2	Hydrocortisone	oinment, cream, 1%
3	Prednisolone	oinment, cream, 0.5%

## **13.4 Astringent drugs**

1	Tannin	solution, 1%, 2%; ointment, 10%
---	--------	---------------------------------

---

## 14. Diagnostic agents

1	Fluorescein	eye drops, 1%
2	Tropicamide	eye drops, 0.5%

### 14.2 Radiocontrast media

1	Barium sulfate	aqueous suspension
2	Verografine	injection, 60%, 76% - 20 ml amp.

---

## 15. Desinfectants and antiseptics

### 15.1 Antiseptics

1	Cerigelum	solution, 400ml vial
2	Chlorhexidine	solution, 20% for dilution, 300ml, 500ml, 5 liters
3	Hydrogen peroxide	solution, 3%
4	Iodine	solution, 2%

### 15.2 Desinfectants

1	Calcium hypochlorite	powder (70% available chlorine) for solution
2	Chloramine B	solution, 1%, 5%
3	Phenol	pure solution, 3%, 5%

---

## 16. Diuretics

1	Amiloride	tablet, 5 mg
2	Ammonium chloride	solution, 2.5% - 200 ml
3	Furosemide	tablet, 40 mg; injection, 10mg/ml, - 2 ml amp.
4	Hydrochlorothiazide	tablet, 25 mg, 50 mg
5	Mannitol	injectable solution, 15%
6	Spironolactone	tablet, 25 mg

---

## **17. Gastrointestinal drugs**

### **17.1 Antacids and other antiulcer drugs**

1	Aluminium and Magnesium hydroxide	suspension, 170 ml, 200 ml in bottle
2	Aluminium hydroxide	tablet, 500 mg; oral suspension, 320 mg/5 ml
3	Fomatidine	tablet, 30 mg
4	Magnesium hydroxide	oral suspension, equivalent to 550mg magnesium oxide/10 ml
5	Omeprazole	capsule, 20mg
6	Ranitidin	tablet 0.15gm; injection, 50 mg, 100 mg in amp.

### **17.2 Antiemetic drugs**

1	Metoclopramide	tablet, 10 mg; injection, 5mg/ml in 2ml amp
2	Promethazine	tablet; 10 mg, 25 mg; elixir; syrup, 5 mg/5 ml

### **17.3 Antihaemorrhoidal drugs**

1	Anusolum	suppository
2	Bethiolum	suppository
3	Butadion	ointment, 5%

### **17.4 Anti inflammatory drugs**

1	Hydrocortisone	suppository, 25 mg
2	Sulfasalazine	tablet, 500 mg

### **17.5 Antispasmodic drugs**

1	Atropine	injection, 1 mg/ml in amp.
2	Methacinum	tablet, 2mg; injection, 0.1% - 1 ml amp.
3	Pirenzepine hydrochloride	tablet, 25mg, 50mg; injection, 5mg/ml
4	Platyphylline hydrotartrate	injection, 0.1% - 1 ml amp.

### **17.6 Cathartic drugs**

1	Bisacodyl	dragee, 5mg; suppository, 10mg
2	Senna	tablet, 7.5mg

## **17.7 Drugs used in diarrhoea**

### **17.7. Oral rehydration**

Oral rehydration salts  
(for glucose-electrolyte solution) powder, 27.9 g/l

Components g/l

potassium chloride	1.5
trisodium citrate dehydrate	2.9
sodium chloride	3.5
glucose	20.0

## **18. Hormones, other endocrine drugs and contraceptives**

### **18.1 Adrenal hormones and synthetic substitutes**

1	Desoxycorticosterone acetate	tablet, 5 mg; injection 0.5% - 1ml in oil
2	Dexamethasone	tablet, 500 mcg, 4 mg; inject. 4mg/1ml in amp.
3	Hydrocortisone acetate	powder for inject., 100mg in vial
4	Prednisolone	tablet, 1mg, 5mg
5	Triamcinolone	tablet, 5mg

### **18.5 Insulins and other antidiabetic agents**

1	Insulin injection (soluble)	injection, 40 IU/ml - 10ml vial, 80 IU/ml - 10ml vial, 100 IU/ml - 10 ml vial
2	Suspensia zinc-insulin	injection, 40 IU/ml, 80 IU/ml.

## **19. Immunologicals**

## 19.2 Sera and immunoglobulins

1	Antitetanus antitoxin	injection
2	Antitetanus immunoglobulin (human)	injection, 500 IU in vial
3	Diphtheria antitoxin	injection, 10000 IU, 20000 IU in vial
4	Immunoglobulin, human normal	injection
5	Rabies immunoglobulin	injection, 150 IU/ml in vial

## 19.3 Vaccines

1	Diphtheria-tetanus vaccine	injection
2	Hepatitis B vaccine	injection
3	Poliomyelitis vaccine (live attenuated)	oral solution
4	Rabies vaccine	injection

---

## 20. Muscle relaxants (peripherally acting) and cholinesterase inhibitors

1	Dioxonium	injection, 0.1% - 5 ml amp.
2	Neostigmine	injection, 500mcg in 1ml amp.
3	Pempidine tosylate	tablet, 5 mg.
4	Pipecuronium bromide	powder for injection, 4 mg (0.9% NaCl in amp).
5	Pyridostigmine	tablet, dragee, 60mg; injection, 0.5% - 1ml amp.
6	Suxamethonium chloride	injection, 50 mg in amp.
7	Truxicarium iodide	injection, 0.7% - 2 ml amp.
8	Tubocurarin	injection, 1% - 1ml, 5 ml amp.

---

## 21. Ophthalmological preparations

### 21.2 Anti inflammatory agents

1	Prednisolone	solution (eye drops), 0.5%
---	--------------	----------------------------

---

## 22. Oxytocics and antioxytocics

## 22.1 Oxytocics

1 Oxytocin injection, 5 IU/ 1ml in amp.

## 22.2 Antioxytocics

1 Salbutamol tablet, 4 mg;  
injection, 50 mcg/ml - 5ml amp.

---

## 23. Psychotherapeutic drugs

1 Amitriptyline tablet, 25 mg  
2 Chlorpromazine injection, 25mg/ml - 1ml, 2ml  
amp.  
3 Diazepam injection, 5mg - 1ml, 2 ml amp.  
4 Haloperidol tablet, 2mg, 5mg  
5 Imipramine tablet, 25 mg  
6 Mesocarbe tablet, 5mg, 10mg, 25mg

---

## 24. Drugs acting on the respiratory tract

### 24.1 Antiasthmatic drugs

1 Aminophylline tablet, 100mg, 200mg;  
2 Beclomethasone inhalation (aerosol), 50 mcg per  
dose  
3 Cromolyn sodium inhalation (aerosol), 20 mg per  
dose  
4 Ephedrine HCl tablet, 30 mg; injection, 50 mg in  
1ml amp.  
5 Epinephrine injection, 0.1% - 1ml in amp.  
6 Salbutamol tablet, 2mg, 4mg; inhalation,  
0.5% - 100 mcg per dose

### 24.2 Antitussives and expectorants

1 Acetylcistein injection, 10% - 2 ml amp.;  
inhalation, 20% - 5 ml  
2 Bromhexine tablet, 4mg; syrup  
3 Codeine tablet, 10mg  
4 Oxaladine citrate syrup, 50 ml

---

## 25. Solutions correcting water, electrolyte and acid-base disturbances

### 25.1 Oral rehydration

1 Regidrone powder 27.9 g/l  
(glucose-electrolyte solution)

COMPONENTS g/l

potassium chloride	1.5
trisodium citrate dehydratate	2.9
sodium chloride	3.5
glucose	20.0

### 25.2 Parenteral

1 Glucose injectable solution, 5%, 50%  
2 Glucose with sodium chloride injectable solution, 4% glucose,  
0.18% sodium chloride  
3 Lactosole injection, 400mg

COMPONENTS: g/l

magnezium chloride	0.1
calcium chloride	0.16
potassium chloride	0.3
sodium lactate	3.36
sodium chloride	6.2
sodium bicarbonate	till pH=6.82

4 Potassium chloride injection, 4% - 10ml amp.  
5 Sodium chloride injectable 0.9% isotonic  
solution  
6 Sodium hydrocarbonate injection, 4% - 20ml amp.  
7 Sol. Ringer-Locke tablet for solution

---

## 26. Vitamins and minerals

1 Ascorbic acid tablet, 50 mg; injection, 5%,  
10% - 1ml, 2ml amp.  
2 Calcium pangamate tablet, 50 mg  
3 Cyancobalamin injection, 0.001%, 0.002%,

4	Ergocalciferol	0.003%, 0.05% - 1ml amp.
5	Folic acid	capsule, 1.25 mg (50000 IU)
6	Nicotinic acid	tablet, 5 mg
		tablet, 50mg;
7	Pyridoxine	injection, 1% - 1ml amp.
		tablet, 2mg, 5mg, 10mg;
8	Retinol	injection, 1%, 5% - 1ml amp.
9	Riboflavine	dragee, 33000 IU
10	Thiamin	tablet, 5 mg
		tablet, 2mg;
11	Tocopherole acetate	injection 2.5%, 3% - 1ml amp.
		sol. in oil, 5%, 10%, 30% - 1ml

---

## 27. Analeptics

1	Bemegrade	injection, 0.5% - 10 ml amp.
2	Camphorae	injection, 20% - 2 ml amp.
3	Ethimisol	powder for inject., 100 mg, 1%, 1.5% - 3ml, 5ml.

---

## 28. Hypnotics and sedatives

1	Chlordiazepoxide	tablet, 5mg, 10mg, 25mg; powder for injection, 100mg
2	Diazepam	injection, 0.5% - 2ml amp.
3	Nitrazepam	tablet, 5mg; suspension, 2.5ml, 5ml
4	Oxibutirate sodium	injection, in 10ml amp.
5	Phenobarbital	tablet, 15mg, 100mg

## ANNEX B

### Pharmacy and Therapeutics Committee

The many drugs available with the majority being imported and the complexities surrounding their safe and effective use make it necessary for the hospital to have a sound program for maximizing rational drug use. The pharmacy and therapeutics (P&T) committee is the organizational keystone to this program.

The P&T committee evaluates for the oblast the clinical use of drugs, develops policies for managing drug use and drug administration, and manages the drug formulary system. This committee is composed of physicians, pharmacists, and nurses selected by the chief physician of the oblast. It is a policy-recommending body to the physicians and hospitals on matters related to the therapeutic use of drugs.

#### Purposes

The primary purposes of the P&T committee are

- **Policy Development.** The committee formulates policies regarding the evaluation, selection and therapeutic use of drugs for the hospital.
- **Education.** The committee recommends or assist in the formulation of programs designed to meet the needs of the professional staff (physicians, nurses, and pharmacists) for complete current knowledge of matters related to drugs and drug use.

#### Organization and operation

While the composition and operation of the P&T committee might vary among hospitals, the following generally will apply:

- The P&T committee should be composed of a minimum of 5 to a maximum of 10 of the following voting members: physicians, pharmacists, nurses, and others as appropriate. The size of the committee may vary depending on the scope of services provided by the oblast. Committee members should be appointed by the chief physician of the oblast for staggered two year terms.
- A chairperson from among the physician representatives should be appointed. The pharmacist should be designated as secretary.
- They should meet regularly, at least six times per year, and more often when necessary.
- The committee should invite to its meetings persons within or outside the oblast who can contribute specialized or unique knowledge, skills, and judgments.
- An agenda and supplementary materials (including minutes from the previous meeting) should be prepared by the secretary and submitted to the committee members in sufficient time before each meeting for them to review the material properly.
- Minutes of committee meetings should be prepared by the secretary and maintained in the permanent records of the Oblast Health Care Department.

- Recommendations of the committee should be presented to the chief physician for adoption or recommendation.
- Liaison with other hospital committees concerned with drug use should be maintained.
- Actions of the committee should be routinely communicated to the various health-care staff involved in the care of patients.
- The committee should be organized and operated in a manner that ensures the objectivity and credibility of its recommendations.
- The committee should recommend to the Head of the Oblast Health Care Department for his approval a conflict of interest policy with respect to committee recommendations and actions.
- In formulating drug use policies for the hospital, the committee should be attentive to the content and changes in pertinent guidelines and policies of the national, oblast or city health departments ,and others as appropriate.

### • **Functions and scope**

- The basic organization of each hospital and its medical staff may influence the specific functions and scope of the P&T committee. The following list of committee functions is offered as a guide:
  - To serve in an evaluative, educational, and advisory capacity to the medical staff in all matters pertaining to the use of drugs.
  - To develop a formulary of drugs accepted for use in the hospital and provide for its periodic revision. The selection of drugs to be included in the formulary should be based on objective evaluation of their relative therapeutic merits, safety, and cost. The committee should minimize duplication of the same basic drug type, drug entity or drug product.
  - To establish programs and procedures that help ensure safe and effective drug therapy.
  - To establish programs and procedures that help ensure cost-effective drug therapy.
  - To establish or plan suitable educational programs for the hospital's medical staff on matters related to drug use.
  - To participate in Total Quality Management(TQM) activities related to distribution, administration, and use of medications.
  - To monitor and evaluate adverse drug reactions in the hospital and to make appropriate recommendations to prevent their occurrence.

# ANNEX C

## The Drug Formulary System

- The care of patients in hospitals is often dependent on the effective use of drugs. The many drugs available in the market place makes it mandatory that a sound program of drug usage be developed within the hospital to ensure the patients receive the best possible care.
- In the interest of better patient care, the hospital should have a program of objective evaluation, selection, and use of medicinal agents in the hospital . This program is the basis of appropriate and economical drug therapy. The drug formulary system is a method of providing such a program.
- The P&T committee represents the official organizational line of communications and liaison between the medical and pharmacy staffs. The committee is responsible to the medical staff as a whole, and its recommendations are subject to approval by the chief physician.
- The committee assists in the formulation of broad professional policies related to drugs in the hospital , including their evaluation or appraisal, selection, procurement, storage, distribution, and safe use.

### Definition of Drug Formulary and Drug Formulary System

The *drug formulary* is a periodically revised list of pharmaceuticals that reflects the current clinical judgment of the medical staff.

The *drug formulary system* is a method whereby the medical staff of the hospital, working through the P&T committee, evaluates, appraises, and selects from among the numerous available drug entities and drug products those that are considered the most useful in patient care. Only those so selected are routinely available from the pharmacy. The drug formulary system is thus an important tool for assuring the quality of drug use and controlling its cost. The drug formulary system provides for the procuring, prescribing, dispensing, and administering of drugs under either their nonproprietary or proprietary names in instances where drugs have both names.

### Guiding principles

- The following principles will serve as a guideline for physicians, pharmacists, and nurses in hospitals utilizing the drug formulary system:
- The chief doctor shall appoint a multidisciplinary P&T committee and outline its purposes, organization, function and scope.
- The drug formulary system shall be supported by the hospital, based on the recommendations of the P&T committee. The medical staff should adopt the principles of the system to the needs of the its hospital.
- The hospital shall adopt written policies and procedures governing the drug formulary system as developed by the P&T committee. These policies and procedures shall afford guidance in the evaluation or appraisal, selection, procurement, storage, distribution, safe use , and other matters relating to drugs and

shall be published in the hospital's drug formulary available to all members of the medical staff.

- Drugs should be included in the formulary by their generic or international nonproprietary names, even though proprietary names may be in common use in the hospital. Physicians should be strongly encouraged to prescribe drugs by their nonproprietary names.
- Limiting the number of drug entities and drug products routinely available from the pharmacy can produce substantial patient-care and particularly financial benefits. These benefits are greatly increased though the use of *generic equivalents* (drug products considered to be identical with respect to their active ingredients)
- The P&T committee must set forth policies and procedures governing the dispensing of generic and therapeutic equivalents. These policies and procedures should include the following:
  - \* That the pharmacy is responsible for selecting , from available generic equivalents, those drugs to be dispensed pursuant to physicians order for a particular drug product.
  - The hospital shall make certain that its medical and nursing staff are informed about the existence of the drug formulary system, the procedures governing its operation, and any changes in those procedures. Copies of the drug formulary must be readily available and accessible at all times.
  - Provision shall be made for the periodic appraisal and use of drugs not included in the formulary by the medical staff.
  - The pharmacist shall be responsible for specifications as to the quality, quantity, and source of supply of all drugs, chemicals, biologicals, and pharmaceutical preparations used in the diagnosis and treatment of patients.
  - Exceptions to use of formulary drugs may be granted by the Chief Physician.

# **Guidelines on Drug Formulary System Management**

The purposes of these guidelines are to:

- Provide an outline of recommended techniques and processes for drug formulary system management.
- Define terms associated with drug formulary system management.
- Provide guidance and direction to pharmacists on how to apply the concepts of drug formulary system management within the context of the “Drug Formulary System”
- Describe the pharmacist’s responsibility, in cooperation with the medical staff, in management of the formulary system.

The drug formulary system is the method for evaluating and selecting suitable drug products for the formulary of the hospital. Formulary system management is the application of various techniques to ensure high quality and cost-effective drug therapy through the drug formulary system.

The formulary of the hospital is a list of drugs that are considered by the medical staff to be the most useful in patient care.

Development, maintenance, and approval of the formulary are the responsibilities of the pharmacy and therapeutics (P&T) committee which exists as a committee of the hospital. These responsibilities include oversight of the procedures used to carry out these formulary functions.

Three key elements are important for the establishment and maintenance of a credible drug formulary. They are:

1. A collaborative working relationship among physicians, nurses and pharmacists.
2. A defined medical staff that works for the hospital.
3. An interdisciplinary P&T committee as a committee of the hospital.

## **Principles of Drug Formulary System Management**

The purpose for ongoing management of the drug formulary system is to optimize patient care through rational selection and use of drugs and drug products within the hospital . Pharmacists play a primary role in assessing the relative safety and efficacy of pharmaceuticals nominated for addition to or deletion from the drug formulary. Through the application of techniques of formulary system management and through the reevaluation and improvement of these techniques as necessary, the effectiveness of the formulary system is continuously assessed , resulting in quality improvement of the overall drug use process. Both therapeutic outcomes and costs related to the drug use process can thus be optimized.

Physician acceptance of the drug formulary management process is essential to effect quality improvements through formulary system management. Pharmacists play a key

leadership role in fostering this acceptance by clarifying and supporting the goals and processes of formulary system management. Restated, the goal of formulary system management should be sound therapeutics. To achieve this goal successfully, physicians should be actively involved in developing the techniques used to manage the formulary system. Communication and understanding among pharmacists, nurses and physicians, and the P&T committee members should be timely and routine. Pharmacists should ensure that a balanced presentation of drug information is provided to physicians.

Techniques of formulary system management fall into three general categories: (1) drug use evaluation, (2) formulary maintenance, and (3) drug product selection.

## **Drug Use Evaluation**

Drug use evaluation is ongoing, structured, organizationally authorized process designed to ensure that drugs are used appropriately, safely, and effectively. A well-designed drug use evaluation program applies continuous total quality management methods to the drug use process. Drug use evaluation should be a part of the hospital's overall quality-assurance program. Drug use evaluation is a quality-assurance activity, but it may also be considered a formulary system management technique. The P&T committee should be involved in the drug use evaluation process.

Effective drug use evaluation begins with drug use criteria or treatment guidelines approved by the P&T committee on behalf of the hospital. Drug use evaluation should measure and compare the outcomes of patients whose treatment did, or did not, comply with approved criteria or guidelines. Based on this comparative information, criteria or guidelines can be revised, compliance can be encouraged, educational programs can be initiated, or changes can be made to the drug formulary system. Drug use evaluation program should include provisions for periodic review of all components of the system.

***Drug Use Criteria.*** In cases where a drug poses potential efficacy, toxicity, or utilization problems for the hospital, criteria may be established by the P&T committee to promote appropriate use. Drug use criteria are approved guidelines regarding how, or under what conditions, a drug is recommended for use. Preliminary drug use criteria should be developed at the time that a drug is proposed for addition to the formulary. Drug use criteria should be updated as needed over time. There are three general types of criteria: diagnosis criteria, prescriber criteria, and drug-specific criteria. Criteria of any type can be used independent-entry or in combination.

***Diagnosis criteria*** identify indications that constitute acceptable uses for a formulary drug within the hospital. Protocols, if any, for restricting the use of a formulary drug to specific diagnoses or medical conditions should be established by the P&T committee.

***Prescriber criteria*** identify prescribers approved to use specific formulary drugs or drug classes.

***Drug specific criteria*** identify approved doses, frequency of administration, duration of therapy, and other aspects that are specific for the use of a formulary drug.

**Treatment guidelines.** Treatment guidelines are similar to drug use criteria, except that treatment guidelines focus on disease-based drug therapy. Whereas drug use criteria relate to a specific drug, treatment guidelines outline a recommended therapeutic approach to specific diseases. This approach generally identifies the use of several different drugs, depending on disease severity or specific patients characteristics. Treatment guidelines are typically developed and approved by the P&T committee for high risk, high volume, or problem-prone diseases encountered in the hospital.

## **Formulary Maintenance**

Formulary maintenance techniques include

- Therapeutic drug class review
- Processes by which drug products are added to or deleted from the formulary.
- Use of nonformulary drugs in unique patients situations.

To be effective in improving the drug use process, the medical staff and pharmacists must work collaboratively. The pharmacist should assume responsibility and leadership role in the development and presentation of information required by the P&T committee for decisionmaking. The medical staff must understand and support the process by which these techniques are applied, as well as participate in the development and review of information.

**Therapeutic drug class review.** It is useful for the P&T committee to review the use and therapeutic effects of several classes of drug products every year. These reviews can be prompted by criteria set by the P&T committee itself. For example, based on the number of adverse drug reaction reports, new information in the medical literature, or drug class expenditures, the committee can determine which classes of formulary drugs are worthy of reassessment.

The goal is to identify preferred agents based on effectiveness, toxicity, or cost differences within the same class. It is important that appropriate medical staff input , outside the committee, be solicited during these reviews. Outcomes of therapeutic class reviews can include development of new drug use criteria, new treatment guidelines, or changes to the drug formulary.

**Formulary Addition or Deletion.** To strengthen the ability of the P&T committee to make sound decisions on changes to the formulary, it is recommended that there be an approved policy and procedures for requesting changes to the formulary. This process typically involves submission of a request to the P&T committee by pharmacists or members of the medical staff.

Consideration of a drug for addition to the formulary should include a review of an evaluation report prepared by the pharmacy. In addition to monograph information, an impact statement describing the effect of the proposed change to the quality and cost of patient care and drug therapy should accompany each request for addition to or deletion from the formulary.

The use of predetermined decision-reassessment dates is advised ( e.g., the drug is placed on the formulary for a 6-month evaluation) to allow the committee to review the actual impact of certain formulary decisions. Reassessment dates are especially useful in situations where the expected impact of the formulary decision on the quality or cost of the drug therapy may be significant or uncertain.

***Use of Nonformulary Drug.*** In general, only formulary drugs are endorsed as appropriate for routine use within the hospital. The underlying principle for the existence of a process for approval of nonformulary drugs is that individual or unique patient needs can exist that may not be satisfied by the use of formulary drugs. There should be an approval policy and procedures for obtaining approval for use of nonformulary drugs. This process should include the generation of information on the use of nonformulary drugs to enable the P&T committee to review trends in nonformulary drug use, which may influence formulary addition or deletion decisions. There should also be a process in place for obtaining nonformulary drugs in a timely manner.

### **Drug Product Selection**

Pharmacists should assume a leadership role in drug product selection by proposing opportunities for drug product selection. This includes evaluation and assessment of bioequivalence data; storage, dispensing, and administration characteristics; cost; and other relevant product information. Pharmacists must also ensure that products of adequate quality are procured.

***Generic substitution.*** Generic substitution is defined as the substitution of drug products that contain the same active ingredient(s) and are chemically identical in strength, concentration, dosage form, and route of administration to the drug product prescribed. These products can also be termed “generic equivalents” and should display therapeutic equivalence.

The key word in this definition is “identical”. For example, the substitution of one brand of propranolol tablets to another represents the application of generic substitution if the strength of the active ingredients and the dosage form are identical. To ensure quality patient care, the two propranolol products must also be shown to achieve therapeutic equivalence as defined above.

The P&T committee is responsible for determining which drugs are acceptable for generic substitution and for developing guidelines for pharmacists who carry out this formulary system management activity. Typically, pharmacists determine which products are purchased and dispensed as generic substitutes. Notification of generic substitution is generally not provided to the prescriber at the time that a generic equivalent is dispensed.

# SHYMKENT PHOSPHORUS HOSPITAL DRUG FORMULARY

PREPARED BY THE  
PHARMACY AND THERAPEUTICS COMMITTEE  
Satkhanbayev A. Z. MD, Chairman

in accordance with the approval of the Chief Physician  
Baidauletov I. O. MD

Submitted by the *ZdravReform* program to:  
USAID/ENI/HR/HP

USAID Contract No. CCN-0004-C-00-4023-00  
Managed by Abt Associates Inc.  
with offices in Bethesda, Maryland, USA  
Moscow, Russia; Almaty, Kazakstan; Kiev, Ukraine

September 1995

## THE DRUG FORMULARY SYSTEM

The drug formulary was prepared by the Pharmacy and Therapeutics Committee and approved by the chief physician. Formulary drugs are listed as follows:

- **Alphabetical listing of drugs by generic or international non-proprietary name.**
- **Alphabetical listing of drugs by generic name cross referenced by brand name.**
- **Alphabetical listing of drugs by brand name cross referenced by generic name.**

The drug formulary system is the accepted method whereby the medical staff of this hospital, working through the Pharmacy and Therapeutics Committee, evaluates, appraises and selects from numerous medicinal agents that are considered most useful in patient care.

Under the formulary system, members of the medical staff agree in each instance in which a drug is prescribed by trade or brand name that they are authorizing the hospital pharmacy to dispense the identical drug under its generic or international non-proprietary name.

Special thanks to the following medical department heads and members of the Pharmacy and Therapeutics committee for their consultation in helping prepare the drug formulary.

Deputy doctor (maternity hospital)	Ismailova, Uljan Imanaliyevna
Department of pathology prevention	Abraliyeva, G. I.
Resuscitation department N1	Valitov, Marat Sultanovich
Neurology department	Ermekbayev, I. N.
Allergology department	Chirkina, G. V.
Cardiology department	Uteulin, M. T.
Gynecology department	Bapayeva, Gauri Belahanovna
Surgery department	Tanashev, N. T.
Pharmacy N 196	Batkayeva, R. M.
Rehabilitation of neurological patients department	Bekenov, O. E.

### **Chairman of the Pharmacy and Therapeutic Committee**

Satkhanbayev, A. Z., Deputy physician (clinical questions)

### **Secretary of the Pharmacy and Therapeutic Committee**

Hamzayeva, Z. A., Clinical pharmacist

## TABLE OF CONTENTS

<b>Introduction</b>	1-7
The drug formulary system	1
Table of contents	2
Basic principles for inclusion of a drug on the drug formulary	3
Donated drugs	4
Notes	5
<b>Annex A: Drug Formulary, Shymkent Phosphorous Hospital</b>	8-24
<b>Annex B: Pharmacy and Therapeutic Committee</b>	25-27
Purposes	26
Organization and operation	26
Functions and scope	27
<b>Annex C: The Drug Formulary System</b>	28-34
Definition of drug formulary and drug formulary system	29
Guiding principles	29
Guidelines on drug formulary system management	30
Principles of drug formulary system management	31
Drug use evaluation	31
Formulary maintenance	32
Drug product selection	33

## **BASIC PRINCIPLES FOR INCLUSION OF A DRUG ON THE DRUG FORMULARY**

A major responsibility of the Pharmacy and Therapeutic Committee is the review of new drug products for possible formulary addition. The drugs selected for formulary addition are those agents:

- **which, according to current medical knowledge, are considered desirable for optimal patient care,**
- **whose efficacy has been established, and**
- **which provide cost-effective drug therapy.**

The factors that are considered when a drug is reviewed for possible formulary addition are listed below. Drugs which fulfill these criteria will be given serious consideration for formulary addition.

### **1. Therapeutic effectiveness**

- The new product provides a pharmacological approach to treatment of a specific disease where none previously existed.
- The drug offers a clinically significant advantage over presently available formulary drug products.

### **2. Adverse drug reactions**

- The new product has similar therapeutic effectiveness to a formulary drug product with less frequent or severe side effects.

### **3. Compliance and patient acceptance**

- The new product demonstrates improved compliance.
- The new product is more palatable to the patient.

### **4. Drug product cost**

- The therapeutic effectiveness and adverse reactions are similar to a formulary drug and significant cost savings can be demonstrated.

### **5. Other factors**

- Duplication of drug therapy should be avoided.
- Combination drugs should be used only if they offer a needed benefit over single entity drugs.

The decision to add or not to add a drug to the drug formulary is based upon a review of all the above criteria based upon published information currently available at the time of the review.

## **DONATED DRUGS**

The following principles should be observed by donors:

- No drug should be provided that is not in the Kazakhstan list of the essential drugs.
- All drugs provided should be obtained from a reliable source.
- All drugs should have a remaining shelf life of at least six months.
- Labeling should be in a language that is understood locally and should include the generic name of the drug.
- No drugs should be donated that have already been issued to patients and returned to a pharmacy in the donor country.

A financial contribution should be considered instead of a drug donation since it may be cheaper to buy the drugs locally.

## NOTES

## NOTES

## NOTES

**ANNEX A:**

**DRUG FORMULARY**

**SHYMKENT PHOSPHORUS HOSPITAL**

**September 1995**

## Drug Formulary (Shymkent Phosphorus Hospital)

### 1. Anaesthetics

#### 1.1 General Anaesthetics

1	Ether, anesthetic	inhalation, 140mg
2	Halothane	inhalation, 50mg
3	Ketamine	injection, 50mg/ml - 20ml
4	Nitrous oxide	inhalation
5	Oxygen	inhalation
6	Thiopentone sodium	powder for injections, 500mg, 1000mg

#### 1.2 Local Anaesthetics

1	Cocaine HCl	powder, solution, 1%, 2%, 3%, 5%
2	Lidocaine	injection, 1%, 2% in 2ml, 10ml, 20ml amp.
3	Procaine	injection, 0.25%, 0.5%, 1%, 2% - 2ml, 5ml, 10ml amp.
4	Richlocaine HCl	injection, 0.25%, 0.5%, 1%, 2% - 5ml, 10ml amp., 100ml, 200ml vial

#### 1.3 Preoperative medications

1	Atropine sulfate	injection, 0.1% - 1ml in amp.
2	Diazepam	injection, 0.5% - 2ml amp.
3	Droperidol	injection, 0.25% - 5ml, 10ml amp.
4	Fentanyl	injection, 0.005% - 2ml, 5ml amp.
5	Morphine HCl	injection, 1% - 1ml amp.
6	Promethazine	tablet, 25mg; injection, 2.5% - 2ml

---

### 2. Analgesics, antipyretics, non-steroidal anti-inflammatory drugs and drugs used to treat gout

#### 2.1 Non-opioids

1	Acetylsalicylic acid	tablet, 100mg, 250mg, 500mg
2	Allopurinol	tablet, 100mg
3	Diclofenac sodium	tablet, 25mg
4	Ibuprophen	tablet, 200mg
5	Indometacin	tablet, capsule, 25mg
6	Ketorolac	tablet, 10mg; injection, 1.5%, 3% -1ml amp.
7	Paracetamol	tablet, 250mg, 500mg
8	Sulfipyrazone	tablet, 100mg

## 2.2 Opioid analgesics

1	Codeine	tablet, 15mg
2	Fentanyl	injection, 0.005% - 2ml, 5ml amp.
3	Morphine	injection, 1% - 1ml amp.
4	Prosidol	tablet, 25mg; injection, 1% - 2ml amp.
5	Tramal	injection, 1% - 1ml amp.

---

## 3. Anti-allergics and drugs used in anaphylaxis

1	Aminophylline	injection, 24% - 1ml amp.
2	Chloropyramine	tablet, 25mg; injection, 2% - 1ml amp.
3	Clemastine fumarate	tablet, 1mg; injection, 0.17% - 2ml amp.
4	Dexamethasone	tablet, 500mcg
5	Epinephrine	injection, 0.1% - 1ml amp.
6	Histoglobulin	injection, 3ml amp.
7	Hydrocortisone	powder for inject., 100mg in vial
8	Mebhydroline	tablet, 50mg
9	Prednisolone	tablet, 5mg

## 4. Antidotes and other substances used in poisonings

### 4.1 General

1	Charcoal, activated	tablet, 250mg; powder
---	---------------------	-----------------------

### 4.2 Specific

1	Atropine	injection, 0.1% - 1ml amp.
2	Deferoxamine	powder for injection, 500mg in amp.
3	Dimercaprol	injection, 5% - 5ml amp.
4	Dipiroxim	injection, 15% - 1ml amp.
5	Methylthionium chloride (Methylene blue)	injection, 1% - 50ml, 100ml amp.
6	Naloxone	injection, 0.04% - 1ml amp.
7	Penicillamine	tablet, capsule, 150, 250mg;
8	Physostigmine salicylate	injection, 0.1% - 1ml
9	Protamine sulfate	injection, 1% - 2, 5ml amp.
10	Sodium calcium edetate	injection, 10% - 20ml
11	Sodium edetate	powder for inject.
12	Sodium thiosulfate	injection, 30% - 5ml, 10ml, 50ml amp.

---

**5. Anti-epileptics**

1	Carbamazepine	scored tablet, 100mg, 200mg
2	Clonazepam	tablet, 1mg
3	Diazepam	tablet, 5mg; injection, 0.5% - 2ml amp.
4	Ethosuximide	capsule, 250mg
5	Phenobarbital	tablet, 50mg, 100mg
6	Phenytoin sodium	tablet, 117mg
7	Sodium valproate	tablet, 150mg, 200mg, 300mg, 500mg; capsule, 150mg, 300mg; syrup, 50mg/ml, 300mg/ml

---

**6. Anti-infective drugs****6.2 Antibacterials**

1	Amoxicillin	tablet, 250mg
2	Ampicillin	tablet, 250mg; powder for suspension, 5gm/60gm; powder for injection, 250mg, 500mg in vial
3	Benzylpenicillin	powder for injection, 250000 IU, 500000 IU, 1000000 IU in vial
4	Carbenicillin	powder for injection, 1000mg
5	Cefaclor	tablet, 125mg, 250mg
6	Cefotaxime	powder for injection, 1000mg
7	Chloramphenicol	capsule, 250mg; oral suspension, 150mg/5ml
8	Clindamycin	injection, 150mg/ml;
9	Cycloserine	tablet, capsule, 250mg, 500mg, 1000mg
10	Doxycycline	tablet, capsule, 100mg; powder for injection, 100mg in amp.
11	Erythromycin	tablet, 250mg
12	Gentamicin	injection, 40mg, 80mg/ml in 2ml vial
13	Kanamycin	powder for injection, 500mg, 1000mg in vial
14	Lincomycin	injection, 30% - 1ml, 2ml amp.
15	Phenoxymethylpenicillin	tablet, 250mg; powder for oral suspension, 250mg/5ml
16	Streptomycin	injection, 250mg, 500mg, 1000mg (1mln. IU)
17	Tetracycline	tablet, capsule, 250mg

### 6.2.5 Sulfanilamides

1	Sulfapyridazine	tablet, 500mg	
2	Trimethoprim + sulfadimezine	tablet, 80mg + 400mg	
3	Trimethoprim + sulfamethoxazole	tablet, 80mg + 400mg;	20mg +100mg

### 6.2.6 The synthetic anti-infective drugs

1	Ciprofloxacin	tablet, 250mg; injection, 40mg/100ml in vial	
2	Nitrofurazone	tablet, 100mg	
3	Pefloxacin	tablet, 10mg; solution for injection, 10mg/5ml amp.	
4	Pipermedic acid	tablet, 400mg; capsule, 200mg	

### 6.3 Antifungal drugs

1	Nystatin	ointment, cream, 100000 IU/g	
---	----------	------------------------------	--

### 6.4 Antiprotozoal drugs

#### 6.4.5 Drugs for treatment trichomoniasis and others

1	Metronidazole	tablet, 250 mg	
---	---------------	----------------	--

---

**7. Anti-migraine drugs**

**7.1 For treatment of acute attack**

1	Acetylsalicylic acid	tablet, 100mg, 250mg, 500 mg
2	Ergotamine	tablet, 2 mg
3	Paracetamol	tablet, 200mg, 500 mg

**7.2 For prophylaxis**

1	Propranolol	tablet, 10 mg, 20 mg
---	-------------	----------------------

---

**8. Anti-neoplastic and immuno-suppressant drugs and drugs used in palliative care**

**8.1 Immuno-suppressant drugs**

1	Azathioprine	tablet, 50 mg; powder for injection, 100 mg in vial
2	Cyclosporine	capsule, 25 mg; injection, 5% - 1ml.

**8.2 Cytotoxic drugs**

1	Cyclophosphamide	tablet, 25 mg, 50 mg; powder for injection, 500 mg in vial
2	Fluorouracil	injection, 5% - 5 ml in amp.
3	Methotrexate	tablet, 25mg; injection, 5 mg in amp.

**8.3 Hormones and anti-hormones**

1	Dexamethasone	tablet, 500 mcg; injection, 0.4% - 1ml amp.
2	Ethinylestradiol	tablet, 10mcg, 50 mcg
3	Prednisolone	tablet, 5 mg; injection, 25 mg in vial
4	Tamoxifen	tablet, 10 mg, 20 mg

#### **8.4 Anti-viral agents**

1 Interferon alfa powder for injection, 2ml

---

#### **9. Anti-parkinsonism drugs**

1 Benserazide + Levodopa tablet, 25 mg +100 mg  
2 Biperiden tablet, 2 mg  
3 Carbidopa + Levodopa tablet, 10 mg + 100 mg, 25 mg + 250 mg  
4 Levodopa tablet, 100 mg, 250 mg

---

#### **10. Drugs affecting the blood**

##### **10.1 Anti-anaemia drugs**

1. Cyanocobalamin injection, 30 mcg, 100 mcg, 200 mcg, 500 mcg  
2. Ferrous sulfate capsules, 500mg, 1000mg  
3. Ferrous sulfate + folic acid tablet, 60 mg + 250 mcg  
4. Folic acid tablet, 1 mg, 5 mg; injection, 1mg/ml

##### **10.2 Drugs affecting coagulation**

1 Heparin injection, 1000 IU/ml, 5000 IU/ml, 20000 IU/ml in 1ml amp.  
2 Phenylinum tablet, 30 mg  
3 Protamine sulfate injection, 10 mg/ml. - 5 ml in amp

##### **10.3 Anti-fibrinolytic drugs and haemostatics**

1 Aminocaproic acid powder, 5g; injection, 5% - 100ml vial  
2 Aminomethylbenzoic acid tablet, 250mg  
3 Aprotinin powder for injections, 100000 IU, 300000 IU, 500000 IU in vials

---

**11. Blood products and plasma substitutes****11.1 Plasma substitutes**

1	Dextran-70	infusion, 6% - 200ml, 400ml in vial
2	Hemodes	infusion, 6% - 100ml, 200ml, 400ml
3	Polyglucyn	injectable solution, 200ml, 400ml

**11.2 Plasma fractions for specific uses**

1	Albumin, human	injectable solution, 5%, 10%, 20% - 50 ml, 100 ml
---	----------------	---

---

**12. Cardiovascular drugs****12.1 Anti-anginal drugs**

1	Atenolol	tablet, 50 mg, 100 mg
2	Glyceryl trinitrate	tablet, 500 mcg
3	Isosorbide dinitrate	tablet, 5 mg
4	Nifedipine	tablet, capsule, 10 mg
5	Propranolol	tablet, 10 mg, 40 mg; injection, 1 mg - 1ml, 5ml amp

**12.2 Anti-dysrhythmic drugs**

1	Ajmaline	tablet, 50 mg; injection, 2.5% - 2 ml in amp.
2	Amiodarone	tablet, 200 mg; injection, 150 mg - 3 ml in amp.
3	Lidocaine	injection, 1% - 10ml
4	Procainamide	tablet, 250 mg, 500mg; injection, 100mg/ml - 10ml amp.
5	Propranolol	tablet, 10 mg, 40 mg; injection, 1 mg - 1ml, 5ml amp
6	Quinidine	tablet, 200 mg
7	Verapamil	tablet, 40 mg, 80 mg; injection, 2.5 mg/ml - 2ml amp.

### 12.3 Anti-hypertensive drugs

1	Aminophylline	injection 2.4% - 10ml in amp.
2	Amiodarone	tablet, 200 mg; injection, 150mg/3ml in amp.
3	Atenolol	tablet, 50 mg, 100 mg
4	Captopril	scored tablet, 25 mg
5	Clonidine HCl	tablet, 0.075mg - 0.3 mg; injection, 0.15 mg/1 ml in amp.
6	Diazoxide	injection, 15mg/ml - 1ml, 2ml amp.
7	Diltiazem HCl	tablet, 30mg, 60mg, 90 mg
8	Hygronium	powder for injections, 100mg
9	Nifedipine	tablet, capsule, 10 mg
10	Pentamine	injection, 5% - 2ml amp.
11	Reserpine	tablet, 100 mcg, 250 mcg; injection, 1 mg in 1ml amp
12	Sodium nitroprusside	powder for injection, 50 mg in amp.
13	Verapamil	injection, 2.5 mg/ml - 2ml amp.

### 12.4 Cardiac glycosides

1	Digitoxin	tablet, 100 mcg
2	Digoxin	tablet, 62.5mcg, 250 mcg; injection, 250 mcg/ml in 1ml amp.
3	Milrinone	injection, 200 mcg/ml

### 12.5 Drugs used in vascular shock

1	Dobutamine	powder for injection, 100mg, 250 mg in vial
2	Dopamine	injection, 40 mg/ml - 5ml vial
3	Epinephrine	injection, 0.1% - 1ml in amp.

### 12.6 Anti-thrombotic drugs

1	Acetylsalicylic acid	tablet, 100 mg
2	Streptokinase	powder for injection, 100000 IU in vial

---

**13. Dermatological drugs****13.1 Antifungal drugs**

1	Iodine	spirit solution, 5% - 20ml
2	Sodium thiosulfate	solution, 15% - 10ml, 20ml, 50ml

**13.2 Anti-infective drugs**

1	Acricidum	solution, 0.05%, 0.2%; oinment, 5%, 10%
2	Brilliant green	spirit solution, 1%, 2% in vial
3	Methylthionium chloride (Methylene blue)	spirit solution, 1%, 3%
4	Silver sulfadiazine	cream, 1%

**13.3 Anti-inflammatory and anti-pruritic drugs**

1	Betamethasone	oinment, cream, 0.1%
2	Hydrocortisone	oinment, cream, 1%
3	Prednisolone	oinment, cream, 0.5%

**13.4 Astringent drugs**

1	Tannin	solution, 1%, 2%; oinment, 10%
---	--------	--------------------------------

---

**14. Diagnostic agents**

1	Fluorescein	eye drops, 1%
2	Tropicamide	eye drops, 0.5%

**14.2 Radiocontrast media**

1	Barium sulfate	aqueous suspension
2	Verografine	injection, 60%, 76% - 20 ml amp.

---

**15. Disinfectants and antiseptics****15.1 Antiseptics**

1	Cerigelum	solution, 400ml vial
2	Chlorhexidine	solution, 20% for dilution, 300ml, 500ml, 5 liters
3	Hydrogen peroxide	solution, 3%
4	Iodine	solution, 2%

**15.2 Disinfectants**

1	Calcium hypochlorite	powder (70% available chlorine) for solution
2	Chloramine B	solution, 1%, 5%
3	Phenol	pure solution, 3%, 5%

---

**16. Diuretics**

1	Amiloride	tablet, 5 mg
2	Ammonium chloride	solution, 2.5% - 200 ml
3	Furosemide	tablet, 40 mg; injection, 10mg/ml, - 2 ml amp.
4	Hydrochlorothiazide	tablet, 25 mg, 50 mg
5	Mannitol	injectable solution, 15%
6	Spirolactone	tablet, 25 mg

---

**17. Gastrointestinal drugs****17.1 Antacids and other anti-ulcer drugs**

1	Aluminum and Magnesium hydroxide	suspension, 170 ml, 200 ml in bottle
2	Aluminum hydroxide	tablet, 500 mg; oral suspension, 320 mg/5 ml
3	Fomatidine	tablet, 30 mg
4	Magnesium hydroxide	oral suspension, equivalent to 550mg magnesium oxide/10 ml
5	Omeprazole	capsule, 20mg
6	Ranitidin	tablet 0.15gm; injection, 50 mg, 100 mg in amp.

## 17.2 Anti-emetic drugs

1	Metoclopramide	tablet, 10 mg; injection, 5mg/ml in 2ml amp
2	Promethazine	tablet; 10 mg, 25 mg; elixir; syrup, 5 mg/5 ml

## 17.3 Anti-haemorrhoidal drugs

1	Anusolum	suppository
2	Bethiolum	suppository
3	Butadion	ointment, 5%

## 17.4 Anti inflammatory drugs

1	Hydrocortisone	suppository, 25 mg
2	Sulfasalazine	tablet, 500 mg

## 17.5 Antispasmodic drugs

1	Atropine	injection, 1 mg/ml in amp.
2	Methacinum	tablet, 2mg; injection, 0.1% - 1 ml amp.
3	Pirenzepine hydrochloride	tablet, 25mg, 50mg; injection, 5mg/ml
4	Platyphylline hydrotartrate	injection, 0.1% - 1 ml amp.

## 17.6 Cathartic drugs

1	Bisacodyl	dragee, 5mg; suppository, 10mg
2	Senna	tablet, 7.5mg

## 17.7 Drugs used in diarrhea

### 17.7. Oral rehydration

Oral rehydration salts  
(for glucose-electrolyte solution) powder, 27.9 g/l

Components g/l

potassium chloride	1.5
trisodium citrate dehydrate	2.9
sodium chloride	3.5
glucose	20.0

---

**18. Hormones, other endocrine drugs and contraceptives****18.1 Adrenal hormones and synthetic substitutes**

1	Desoxycorticosterone acetate	tablet, 5 mg; injection 0.5% - 1ml in oil
2	Dexamethasone	tablet, 500 mcg, 4 mg; inject. 4mg/1ml in amp.
3	Hydrocortisone acetate	powder for inject., 100mg in vial
4	Prednisolone	tablet, 1mg, 5mg
5	Triamcinolone	tablet, 5mg

**18.5 Insulins and other anti-diabetic agents**

1	Insulin injection (soluble)	injection, 40 IU/ml - 10ml vial, 80 IU/ml - 10ml vial, 100 IU/ml - 10 ml vial
2	Suspensia zinc-insulin	injection, 40 IU/ml, 80 IU/ml.

---

**19. Immunologicals****19.2 Sera and immunoglobulins**

1	Anti-tetanus antitoxin	injection
2	Anti-tetanus immunoglobulin (human)	injection, 500 IU in vial
3	Diphtheria antitoxin	injection, 10000 IU, 20000 IU in vial
4	Immunoglobulin, human normal	injection
5	Rabies immunoglobulin	injection, 150 IU/ml in vial

**19.3 Vaccines**

1	Diphtheria-tetanus vaccine	injection
2	Hepatitis B vaccine	injection
3	Poliomyelitis vaccine (live attenuated)	oral solution
4	Rabies vaccine	injection

---

**20. Muscle relaxants (peripherally acting) and cholinesterase inhibitors**

1	Dioxonium	injection, 0.1% - 5 ml amp.
2	Neostigmine	injection, 500mcg in 1ml amp.
3	Pempidine tosylate	tablet, 5 mg.
4	Pipecuronium bromide	powder for injection, 4 mg (0.9% NaCl in amp).
5	Pyridostigmine	tablet, dragee, 60mg; injection, 0.5% - 1ml amp.
6	Suxamethonium chloride	injection, 50 mg in amp.
7	Truxicuriurium iodide	injection, 0.7% - 2 ml amp.
8	Tubocurarin	injection, 1% - 1ml, 5 ml amp.

---

**21. Ophthalmological preparations****21.2 Anti inflammatory agents**

1	Prednisolone	solution (eye drops), 0.5%
---	--------------	----------------------------

---

**22. Oxytocics and anti-oxytocics****22.1 Oxytocics**

1	Oxytocin	injection, 5 IU/ 1ml in amp.
---	----------	------------------------------

**22.2 Anti-oxytocics**

1	Salbutamol	tablet, 4 mg; injection, 50 mcg/ml - 5ml amp.
---	------------	---

---

**23. Psychotherapeutic drugs**

1	Amitriptyline	tablet, 25 mg
2	Chlorpromazine	injection, 25mg/ml - 1ml, 2ml amp.
3	Diazepam	injection, 5mg - 1ml, 2 ml amp.
4	Haloperidol	tablet, 2mg, 5mg
5	Imipramine	tablet, 25 mg
6	Mesocarbe	tablet, 5mg, 10mg, 25mg

---

**24. Drugs acting on the respiratory tract****24.1 Anti-asthmatic drugs**

1	Aminophylline	tablet, 100mg, 200mg;
2	Beclomethasone	inhalation (aerosol), 50 mcg per dose
3	Cromolyn sodium	inhalation (aerosol), 20 mg per dose
4	Ephedrine HCl	tablet, 30 mg; injection, 50 mg in 1ml amp.
5	Epinephrine	injection, 0.1% - 1ml in amp.
6	Salbutamol	tablet, 2mg, 4mg; inhalation, 0.5% - 100 mcg per dose

**24.2 Anti-tussives and expectorants**

1	Acetylcystein	injection, 10% - 2 ml amp.; inhalation, 20% - 5 ml
2	Bromhexine	tablet, 4mg; syrup
3	Codeine	tablet, 10mg
4	Oxaladine citrate	syrup, 50 ml

---

**25. Solutions correcting water, electrolyte and acid-base disturbances****25.1 Oral rehydration**

1	Regidrone (glucose-electrolyte solution)	powder 27.9 g/l
	COMPONENTS	g/l
	potassium chloride	1.5
	trisodium citrate dehydrate	2.9
	sodium chloride	3.5
	glucose	20.0

## 25.2 Parenteral

1	Glucose	injectable solution, 5%, 50%
2	Glucose with sodium chloride	injectable solution, 4% glucose, 0.18% sodium chloride
3	Lactosole	injection, 400mg
4	Potassium chloride	injection, 4% - 10ml amp.
5	Sodium chloride	injectable 0.9% isotonic solution
6	Sodium hydrocarbonate	injection, 4% - 20ml amp.
7	Sol. Ringer-Locke	tablet for solution

---

## 26. Vitamins and minerals

1	Ascorbic acid	tablet, 50 mg; injection, 5%, 10% - 1ml, 2ml amp.
2	Calcium pangamate	tablet, 50 mg
3	Cyancobalamin	injection, 0.001%, 0.002%, 0.003%, 0.05% - 1ml amp.
4	Ergocalciferol	capsule, 1.25 mg (50000 IU)
5	Folic acid	tablet, 5 mg
6	Nicotinic acid	tablet, 50mg; injection, 1% - 1ml amp.
7	Pyridoxine	tablet, 2mg, 5mg, 10mg; injection, 1%, 5% - 1ml amp.
8	Retinol	dragee, 33000 IU
9	Riboflavine	tablet, 5 mg
10	Thiamin	tablet, 2mg; injection 2.5%, 3% - 1ml amp.
11	Tocopherole acetate	sol. in oil, 5%, 10%, 30% - 1ml

---

## 27. Analeptics

1	Bemegrade	injection, 0.5% - 10 ml amp.
2	Camphorae	injection, 20% - 2 ml amp.
3	Ethimisol	powder for inject., 100 mg, 1%, 1.5% - 3ml, 5ml.

---

**28. Hypnotics and sedatives**

1	Chlordiazepoxide	tablet, 5mg, 10mg, 25mg; powder for injection, 100mg
2	Diazepam	injection, 0.5% - 2ml amp.
3	Nitrazepam	tablet, 5mg; suspension, 2.5ml, 5ml
4	Oxibutirate sodium	injection, in 10ml amp.
5	Phenobarbital	tablet, 15mg, 100mg

**ANNEX B**

**PHARMACY AND THERAPEUTICS COMMITTEE**

## **ANNEX B: Pharmacy and Therapeutics Committee**

The many drugs available (the majority of which are imported) and the complexities surrounding their safe and effective use make it necessary for the hospital to have a sound program for maximizing rational drug use. The Pharmacy and Therapeutics (P&T) Committee is the organizational keystone to this program.

The P&T Committee evaluates for the hospital the clinical use of drugs, develops policies for managing drug use and drug administration, and manages the drug formulary system. This committee is composed of physicians, pharmacists, and nurses selected by the chief physician of the hospital. It is a policy-recommending body to the medical staff and the administration of the hospital on matters related to the therapeutic use of drugs.

### **Purposes**

The primary purposes of the P&T committee are:

- ***Policy Development.*** The committee formulates policies regarding the evaluation, selection and therapeutic use of drugs for the hospital.
- ***Education.*** The committee recommends or assist in the formulation of programs designed to meet the needs of its professional staff (physicians, nurses, and pharmacists) for complete current knowledge of matters related to drugs and drug use.

### **Organization and operation**

While the composition and operation of the P&T Committee might vary among hospitals, the following generally will apply:

- The P&T committee should be composed of a minimum of five to a maximum of 10 of the following voting members: physicians, pharmacists, nurses, and others as appropriate. The size of the committee may vary depending on the scope of services provided by the hospital. Committee members should be appointed by the chief physician of the hospital for staggered two-year terms.
- A chairperson from among the physician representatives should be appointed. The pharmacist should be designated as secretary.
- They should meet regularly, at least six times per year, and more often when necessary.
- The committee should invite to its meetings persons within or outside the hospital who can contribute specialized or unique knowledge, skills, and judgments.
- An agenda and supplementary materials (including minutes from the previous meeting) should be prepared by the secretary and submitted to the committee members in sufficient time before each meeting for them to review the material properly.
- Minutes of committee meetings should be prepared by the secretary and maintained in the permanent records of the hospital.
- Recommendations of the committee should be presented to the chief physician for adoption or recommendation.

- Liaison with other hospital committees concerned with drug use should be maintained.
- Actions of the committee should be routinely communicated to the various health-care staff involved in the care of patients.
- The committee should be organized and operated in a manner that ensures the objectivity and credibility of its recommendations.
- The committee should recommend to the chief physician for his approval a conflict of interest policy with respect to committee recommendations and actions.
- In formulating drug use policies for the hospital, the committee should be attentive to the content and changes in pertinent guidelines and policies of the national, oblast or city health departments ,and others as appropriate.

### **Functions and scope**

The basic organization of each hospital and its medical staff may influence the specific functions and scope of the P&T Committee. The following list of committee functions is offered as a guide:

- To serve in an evaluative, educational, and advisory capacity to the medical staff in all matters pertaining to the use of drugs.
- To develop a formulary of drugs accepted for use in the hospital and provide for its periodic revision. The selection of drugs to be included in the formulary should be based on objective evaluation of their relative therapeutic merits, safety, and cost. The committee should minimize duplication of the same basic drug type, drug entity or drug product.
- To establish programs and procedures that help ensure safe and effective drug therapy.
- To establish programs and procedures that help ensure cost-effective drug therapy.
- To establish or plan suitable educational programs for the hospital's medical staff on matters related to drug use.
- To participate in Total Quality Management(TQM) activities related to distribution, administration, and use of medications.
- To monitor and evaluate adverse drug reactions in the hospital and to make appropriate recommendations to prevent their occurrence.

**ANNEX C**

**THE DRUG FORMULARY SYSTEM**

## ANNEX C: The Drug Formulary System

- The care of patients in hospitals is often dependent on the effective use of drugs. The many drugs available in the market place makes it mandatory that a sound program of drug usage be developed within the hospital to ensure the patients receive the best possible care.
- In the interest of better patient care, the hospital should have a program of objective evaluation, selection, and use of medicinal agents in the hospital. This program is the basis of appropriate and economical drug therapy. The drug formulary system is a method of providing such a program.
- The P&T Committee represents the official organizational line of communications and liaison between the medical and pharmacy staffs. The committee is responsible to the medical staff as a whole, and its recommendations are subject to approval by the chief physician.
- The P&T Committee assists in the formulation of broad professional policies related to drugs in the hospital, including their evaluation or appraisal, selection, procurement, storage, distribution, and safe use.

### Definition of Drug Formulary and Drug Formulary System

The *drug formulary* is a periodically revised list of pharmaceuticals that reflects the current clinical judgment of the medical staff.

The *drug formulary system* is a method whereby the medical staff of the hospital, working through the P&T Committee, evaluates, appraises, and selects from among the numerous available drug entities and drug products those that are considered the most useful in patient care. Only those so selected are routinely available from the pharmacy. The drug formulary system is thus an important tool for assuring the quality of drug use and controlling its cost. The drug formulary system provides for the procuring, prescribing, dispensing, and administering of drugs under either their non-proprietary or proprietary names in instances where drugs have both names.

### Guiding Principles

- The following principles will serve as a guideline for physicians, pharmacists, and nurses in hospitals utilizing the drug formulary system:
- The chief doctor shall appoint a multidisciplinary P&T Committee and outline its purposes, organization, function and scope.
- The drug formulary system shall be supported by the hospital, based on the recommendations of the P&T Committee. The medical staff should adopt the principles of the system to the needs of the its hospital.
- The hospital shall adopt written policies and procedures governing the drug formulary system as developed by the P&T Committee. These policies and procedures shall afford guidance in the evaluation or appraisal, selection, procurement, storage, distribution, safe use , and other matters relating to drugs and shall be published in the hospital's drug formulary available to all members of the medical staff.

- Drugs should be included in the formulary by their generic or international non-proprietary names, even though proprietary names may be in common use in the hospital. Physicians should be strongly encouraged to prescribe drugs by their non-proprietary names.
- Limiting the number of drug entities and drug products routinely available from the pharmacy can produce substantial patient-care and particularly financial benefits. These benefits are greatly increased though the use of *generic equivalents* (drug products considered to be identical with respect to their active ingredients)
- The P&T Committee must set forth policies and procedures governing the dispensing of generic and therapeutic equivalents. These policies and procedures should include the following:
  - That the pharmacy is responsible for selecting, from available generic equivalents, those drugs to be dispensed pursuant to physicians order for a particular drug product.
  - The hospital shall make certain that its medical and nursing staff are informed about the existence of the drug formulary system, the procedures governing its operation, and any changes in those procedures. Copies of the drug formulary must be readily available and accessible at all times.
  - Provision shall be made for the periodic appraisal and use of drugs not included in the formulary by the medical staff.
  - The pharmacist shall be responsible for specifications as to the quality, quantity, and source of supply of all drugs, chemicals, biologicals, and pharmaceutical preparations used in the diagnosis and treatment of patients.
  - Exceptions to use of formulary drugs may be granted by the Chief Physician.

### **Guidelines on Drug Formulary System Management**

The purposes of these guidelines are to:

- Provide an outline of recommended techniques and processes for drug formulary system management.
- Define terms associated with drug formulary system management.
- Provide guidance and direction to pharmacists on how to apply the concepts of drug formulary system management within the context of the “Drug Formulary System.”
- Describe the pharmacist’s responsibility, in cooperation with the medical staff, in management of the formulary system.

The drug formulary system is the method for evaluating and selecting suitable drug products for the formulary of the hospital. Formulary system management is the application of various techniques to ensure high quality and cost-effective drug therapy through the drug formulary system.

The formulary of the hospital is a list of drugs that are considered by the medical staff to be the most useful in patient care.

Development, maintenance, and approval of the formulary are the responsibilities of the P&T committee which exists as a committee of the hospital. These responsibilities include oversight of the procedures used to carry out these formulary functions.

Three key elements are important for the establishment and maintenance of a credible drug formulary. They are:

1. A collaborative working relationship among physicians, nurses and pharmacists.
2. A defined medical staff that works for the hospital.
3. An interdisciplinary P&T Committee as a committee of the hospital.

### **Principles of Drug Formulary System Management**

The purpose for ongoing management of the drug formulary system is to optimize patient care through rational selection and use of drugs and drug products within the hospital. Pharmacists play a primary role in assessing the relative safety and efficacy of pharmaceuticals nominated for addition to or deletion from the drug formulary. Through the application of techniques of formulary system management and through the reevaluation and improvement of these techniques as necessary, the effectiveness of the formulary system is continuously assessed, resulting in quality improvement of the overall drug use process. Both therapeutic outcomes and costs related to the drug use process can thus be optimized.

Physician acceptance of the drug formulary management process is essential to effect quality improvements through formulary system management. Pharmacists play a key leadership role in fostering this acceptance by clarifying and supporting the goals and processes of formulary system management. Restated, the goal of formulary system management should be sound therapeutics. To achieve this goal successfully, physicians should be actively involved in developing the techniques used to manage the formulary system. Communication and understanding among pharmacists, nurses and physicians, and the P&T committee members should be timely and routine. Pharmacists should ensure that a balanced presentation of drug information is provided to physicians.

Techniques of formulary system management fall into three general categories: (1) drug use evaluation, (2) formulary maintenance, and (3) drug product selection.

### **Drug Use Evaluation**

Drug use evaluation is ongoing, structured, organizationally authorized process designed to ensure that drugs are used appropriately, safely, and effectively. A well-designed drug use evaluation program applies continuous total quality management methods to the drug use process. Drug use evaluation should be a part of the hospital's overall quality-assurance program. Drug use evaluation is a quality-assurance activity, but it may also be considered a formulary system management technique. The P&T Committee should be involved in the drug use evaluation process.

Effective drug use evaluation begins with drug use criteria or treatment guidelines approved by the P&T Committee on behalf of the hospital. Drug use evaluation should measure and compare the outcomes of patients whose treatment did, or did not, comply with approved criteria or guidelines. Based on this comparative information, criteria or guidelines can be revised, compliance can be encouraged, educational programs can be initiated, or changes can be made to the drug formulary system. Drug use evaluation program should include provisions for periodic review of all components of the system.

***Drug Use Criteria.*** In cases where a drug poses potential efficacy, toxicity, or utilization problems for the hospital, criteria may be established by the P&T Committee to promote appropriate use. Drug use criteria are approved guidelines regarding how, or under what conditions, a drug is recommended for use. Preliminary drug use criteria should be developed at the time that a drug is proposed for addition to the formulary. Drug use criteria should be updated as needed over time. There are three general types of criteria: diagnosis criteria, prescriber criteria, and drug-specific criteria. Criteria of any type can be used independent-entry or in combination.

***Diagnosis criteria*** identify indications that constitute acceptable uses for a formulary drug within the hospital. Protocols, if any, for restricting the use of a formulary drug to specific diagnoses or medical conditions should be established by the P&T Committee.

***Prescriber criteria*** identify prescribers approved to use specific formulary drugs or drug classes.

***Drug specific criteria*** identify approved doses, frequency of administration, duration of therapy, and other aspects that are specific for the use of a formulary drug.

***Treatment guidelines.*** Treatment guidelines are similar to drug use criteria, except that treatment guidelines focus on disease-based drug therapy. Whereas drug use criteria relate to a specific drug, treatment guidelines outline a recommended therapeutic approach to specific diseases. This approach generally identifies the use of several different drugs, depending on disease severity or specific patients characteristics. Treatment guidelines are typically developed and approved by the P&T Committee for high risk, high volume, or problem-prone diseases entrenched in the hospital.

## **Formulary Maintenance**

Formulary maintenance techniques include

- Therapeutic drug class review,
- Processes by which drug products are added to or deleted from the formulary, and
- Use of non-formulary drugs in unique patients situations.

To be effective in approving the drug use process, the medical staff and pharmacists must work collaboratively. The pharmacist should assume responsibility and leadership role in the development and presentation of information required by the P&T Committee for decision-

making. The medical staff must understand and support the process by which these techniques are applied, as well as participate in the development and review of information.

***Therapeutic drug class review.*** It is useful for the P&T Committee to review the use and therapeutic effects of several classes of drug products every year. These reviews can be prompted by criteria set by the P&T Committee itself. For example, based on the number of adverse drug reaction reports, new information in the medical literature, or drug class expenditures, the committee can determine which classes of formulary drugs are worthy of reassessment.

The goal is to identify preferred agents based on effectiveness, toxicity, or cost differences within the same class. It is important that appropriate medical staff input, outside the committee, be solicited during these reviews. Outcomes of therapeutic class reviews can include development of new drug use criteria, new treatment guidelines, or changes to the drug formulary.

***Formulary Addition or Deletion.*** To strengthen the ability of the P&T Committee to make sound decisions on changes to the formulary, it is recommended that there be an approved policy and procedures for requesting changes to the formulary. This process typically involves submission of a request to the P&T Committee by pharmacists or members of the medical staff.

Consideration of a drug for addition to the formulary should include a review of an evaluation report prepared by the pharmacy. In addition to monograph information, an impact statement describing the effect of the proposed change to the quality and cost of patient care and drug therapy should accompany each request for addition to or deletion from the formulary.

The use of predetermined decision-reassessment dates is advised (e.g., the drug is placed on the formulary for a six-month evaluation) to allow the committee to review the actual impact of certain formulary decisions. Reassessment dates are especially useful in situations where the expected impact of the formulary decision on the quality or cost of the drug therapy may be significant or uncertain.

***Use of non-formulary Drug.*** In general, only formulary drugs are endorsed as appropriate for routine use within the hospital. The underlying principle for the existence of a process for approval of non-formulary drugs is that individual or unique patient needs can exist that may not be satisfied by the use of formulary drugs.

There should be an approval policy and procedures for obtaining approval for use of non-formulary drugs. This process should include the generation of information on the use of non-formulary drugs to enable the P&T Committee to review trends in non-formulary drug use, which may influence formulary addition or deletion decisions. There should also be a process in place for obtaining non-formulary drugs in a timely manner.

## **Drug Product Selection**

Pharmacists should assume a leadership role in drug product selection by proposing opportunities for drug product selection. This includes evaluation and assessment of bio-equivalence data; storage, dispensing, and administration characteristics; cost; and other relevant product information. Pharmacists must also ensure that products of adequate quality are procured.

**Generic substitution.** Generic substitution is defined as the substitution of drug products that contain the same active ingredient(s) and are chemically identical in strength, concentration, dosage form, and route of administration to the drug product prescribed. These products can also be termed “generic equivalents” and should display therapeutic equivalence.

The key word in this definition is “identical”. For example, the substitution of one brand of propranolol tablets to another represents the application of generic substitution if the strength of the active ingredients and the dosage form are identical. To ensure quality patient care, the two propranolol products must also be shown to achieve therapeutic equivalence as defined above.

The P&T Committee is responsible for determining which drugs are acceptable for generic substitution and for developing guidelines for pharmacists who carry out this formulary system management activity. Typically, pharmacists determine which products are purchased and dispensed as generic substitutes. Notification of generic substitution is generally not provided to the prescriber at the time that a generic equivalent is dispensed.

# SHYMKENT HOSPITAL No. 2 DRUG FORMULARY

PREPARED BY THE  
PHARMACY AND THERAPEUTICS COMMITTEE  
Duysebekov Koshkar Duysebekovich MD, Chairman

in accordance with the approval of the chief physician  
Mustapayev Abdymajit Mustapayevich MD

Submitted by the *ZdravReform* program to:  
USAID/ENI/HR/HP

USAID Contract No. CCN-0004-C-00-4023-00  
Managed by Abt Associates Inc.  
with offices in Bethesda, Maryland, USA  
Moscow, Russia; Almaty, Kazakstan; Kiev, Ukraine

September 1995

## THE DRUG FORMULARY SYSTEM

The drug formulary was prepared by the Pharmacy and Therapeutics Committee and approved by the chief physician. Formulary drugs are listed as follows:

- **Alphabetical listing of drugs by generic or international non-proprietary name.**
- **Alphabetical listing of drugs by generic name cross referenced by brand name.**
- **Alphabetical listing of drugs by brand name cross referenced by generic name.**

The drug formulary system is the accepted method whereby the medical staff of this hospital, working through the Pharmacy and Therapeutics Committee, evaluates, appraises and selects from numerous medicinal agents that are considered most useful in patient care.

Under the formulary system, members of the medical staff agree in each instance in which a drug is prescribed by trade or brand name that they are authorizing the hospital pharmacy to dispense the identical drug under its generic or international non-proprietary name.

Special thanks to the following medical department heads and members of the Pharmacy and Therapeutics Committee for their consultation in helping prepare the drug formulary.

Deputy doctor(maternity hospital)	Jekeyeva, Rosa Kasymovna
Traumatological department	Shomanbayev, Alisher Orazaliyevich
Emergency neurosurgery department	Isayev Kojabay Sapuanovich
Planned neurosurgery department	Payzahmetov, Abdusattar Hashimovich
Pathology of pregnant women department	Yesengaliyeva, Karlygash Kulmashevna
Face surgery department	Jahbarov, Ahmed Gamzatovich
Resuscitation department	Jomanbayev, Beric Egimbayevich
Therapy department	Kospanov, Sadyk Maksutovich
Reception department	Sosin, Alexander Stanislavovich
Neurovascular department	Dayrbekov, Mamyr Tulembayevich

### **Chairman of the Pharmacy and Therapeutic Committee**

Duysebekov, Koshkar Duysebekovich, Deputy Physician (clinical questions)

### **Secretary of the Pharmacy and Therapeutic Committee**

Kovalyova, Galina Nikolayevna, Clinical Pharmacist

## TABLE OF CONTENTS

	<b>Page No</b>
<b>Introduction</b>	1-6
The drug formulary system	1
Table of contents	2
Basic principles for inclusion of a drug on the drug formulary	3
Donated drugs	4
Notes	5
 <b>Annex A</b>	 7-23
Drug formulary, Shymkent hospital No. 2	
 <b>Annex B</b>	
Pharmacy and Therapeutic Committee	24-26
Purposes	25
Organization and operation	25
Functions and scope	26
 <b>Annex C</b>	
The Drug Formulary System	27-33
Definition of drug formulary and drug formulary system	28
Guiding principles	28
Guidelines on drug formulary system management	29
Principles of drug formulary system management	30
Drug use evaluation	30
Formulary maintenance	31
Drug product selection	32

## **BASIC PRINCIPLES FOR INCLUSION OF A DRUG ON THE DRUG FORMULARY**

A major responsibility of the Pharmacy and Therapeutic Committee is the review of new drug products for possible formulary addition. The drugs selected for formulary addition are those agents which:

- **according to current medical knowledge, are considered desirable for optimal patient care,**
- **whose efficacy has been established, and**
- **which provide cost-effective drug therapy.**

The factors that are considered when a drug is reviewed for possible formulary addition are listed below. Drugs which fulfill these criteria will be given serious consideration for formulary addition.

### **1. Therapeutic effectiveness**

- If the new product provides a pharmacological approach to treatment of a specific disease where none previously existed.
- If the drug offers a clinically significant advantage over presently available formulary drug products.

### **2. Adverse drug reactions**

- If the new product has similar therapeutic effectiveness to a formulary drug product with less frequent or severe side effects.

### **3. Compliance and patient acceptance**

- The new product demonstrates improved compliance.
- The new product is more palatable to the patient.

### **4. Drug product cost**

- The new drug will be considered if its therapeutic effectiveness and adverse reactions are similar to a formulary drug and significant cost savings can be demonstrated.

### **5. Other factors**

- Duplication of drug therapy should be avoided.
- Combination drugs should be used only if they offer a needed benefit over single entity drugs.

The decision to add or not to add a drug to the drug formulary is based upon a review of all the above criteria based upon published information currently available at the time of the review.

## **DONATED DRUGS**

The following principles should be observed by donors:

- No drug should be provided that is not in the Kazakhstan list of the essential drugs.
- All drugs provided should be obtained from a reliable source.
- All drugs should have a remaining shelf life of at least six months.
- Labeling should be in a language that is understood locally and should include the generic name of the drug.
- No drugs should be donated that have already been issued to patients and returned to a pharmacy in the donor country.

A financial contribution should be considered instead of a drug donation since it may be cheaper to buy the drugs locally.

## NOTES

## NOTES

**ANNEX A**

**DRUG FORMULARY**  
**SHYMKENT HOSPITAL No. 2**

**September 1995**

## Drug formulary (Hospital No 2)

### 1. Anaesthetics

#### 1.1 General Anaesthetics

1	Ether, anesthetic	inhalation, 140mg
2	Halothane	inhalation, 50mg
3	Ketamine	injection, 50mg/ml - 20ml
4	Nitrous oxide	inhalation
5	Oxygen	inhalation
6	Thiopentone sodium	powder for injections, 500mg, 1000mg

#### 1.2 Local Anaesthetics

1	Cocaine HCl	powder, solution, 1%, 2%, 3%, 5%
2	Lidocaine	injection, 1%, 2% in 2ml, 10ml, 20ml amp.
3	Procaine	injection, 0.25%, 0.5%, 1%, 2% - 2ml, 5ml, 10ml amp.
4	Richlocaine HCl	injection, 0.25%, 0.5%, 1%, 2% - 5ml, 10ml amp., 100ml, 200ml vial

#### 1.3 Preoperative medications

1	Atropine sulfate	injection, 0.1% - 1ml in amp.
2	Diazepam	injection, 0.5% - 2ml amp.
3	Droperidol	injection, 0.25% - 5ml, 10ml amp.
4	Fentanyl	injection, 0.005% - 2ml, 5ml amp.
5	Morphine HCl	injection, 1% - 1ml amp.
6	Promethazine	tablet, 25mg; injection, 2.5% - 2ml

---

**2. Analgesics, antipyretics, non-steroidal anti-inflammatory drugs and drugs used to treat gout**

**2.1 Non-opioids**

1	Acetylsalicylic acid	tablet, 100mg, 250mg, 500mg
2	Allopurinol	tablet, 100mg
3	Diclofenac sodium	tablet, 25mg
4	Ibuprophen	tablet, 200mg
5	Indometacin	tablet, capsule, 25mg
6	Ketorolac	tablet, 10mg; injection, 1.5%, 3% - 1ml amp.
7	Paracetamol	tablet, 250mg, 500mg

**2.2 Opioid analgesics**

1	Codeine	tablet, 15mg
2	Fentanyl	injection, 0.005% - 2ml, 5ml amp.
3	Morphine	injection, 1% - 1ml amp.
4	Prosidol	tablet, 25mg; injection, 1% - 2ml amp.
5	Tramal	injection, 1% - 1ml amp.

---

**3. Anti-allergics and drugs used in anaphylaxis**

1	Aminophylline	injection, 24% - 1ml amp.
2	Chloropyramine	tablet, 25mg; injection, 2% - 1ml amp.
3	Clemastine fumarate	tablet, 1mg; injection, 0.17% - 2ml amp.
4	Dexamethasone	tablet, 500mcg
5	Epinephrine	injection, 0.1% - 1ml amp.
6	Hydrocortisone	powder for inject., 100mg in vial
7	Prednisolone	tablet, 5mg

---

#### 4. Antidotes and other substances used in poisonings

##### 4.1 General

1 Charcoal, activated tablet, 250mg; powder

##### 4.2 Specific

1 Atropine injection, 0.1% - 1ml amp.  
2 Dimercaprol injection, 5% - 5ml amp.  
3 Methylthionium chloride injection, 1% - 50ml, 100ml amp.  
(Methylene blue)  
4 Penicillamine tablet, capsule, 150, 250mg;  
5 Physostigmine salicylate injection, 0.1% -1ml  
6 Protamine sulfate injection, 1% - 2, 5ml amp.  
7 Sodium calcium edetate injection, 10% -20ml  
8 Sodium edetate powder for inject.  
9 Sodium thiosulfate injection, 30% - 5ml, 10ml, 50ml amp.

---

#### 5. Anti-epileptics

1 Carbamazepine scored tablet, 100mg, 200mg  
2 Clonazepam tablet, 1mg  
3 Diazepam tablet, 5mg; injection, 0.5% - 2ml amp.  
4 Phenobarbital tablet, 50mg, 100mg  
5 Phenytoin sodium tablet, 117mg  
6 Sodium valproate tablet, 150mg, 200mg, 300mg, 500mg;  
capsule, 150mg, 300mg; syrup,  
50mg/ml, 300mg/ml

---

#### 6. Anti-infective drugs

##### 6.1 Anthelmintics

##### 6.1.1 Intestinal anthelmintics

1 Levamisole tablet, 50mg, 150mg  
2 Pyrantel chewable tablet, 250mg

## 6.2 Antibacterials

1	Amoxicillin	tablet, 250mg
2	Ampicillin	tablet, 250mg; powder for suspension, 5gm/60gm; powder for injection, 250mg, 500mg in vial
3	Benzylpenicillin	powder for injection, 250000 IU, 500000 IU, 1000000 IU in vial
4	Carbenicillin	powder for injection, 1000mg
5	Cefaclor	tablet, 125mg, 250mg
6	Cefotaxime	powder for injection, 1000mg
7	Chloramphenicol	capsule, 250mg; oral suspension, 150mg/5ml
8	Clindamycin	injection, 150mg/ml;
9	Doxycycline	tablet, capsule, 100mg; powder for injection, 100mg in amp.
10	Erythromycin	tablet, 250mg
11	Gentamicin	injection, 40mg, 80mg/ml in 2ml vial
12	Lincomycin	injection, 30% - 1ml, 2ml amp.
13	Phenoxymethylpenicillin	tablet, 250mg; powder for oral suspension, 250mg/5ml
14	Streptomycin	injection, 250mg, 500mg, 1000mg (1mln. IU)
15	Tetracycline	tablet, capsule, 250mg

### 6.2.5 Sulfanilamides

1	Sulfapyridazine	tablet, 500mg
2	Trimethoprim + sulfadimezine	tablet, 80mg + 400mg
3	Trimethoprim + sulfamethoxazole	tablet, 80mg + 400mg; 20mg + 100mg

### **6.2.6 The synthetic anti-infective drugs**

1	Ciprofloxacin	tablet, 250mg; injection, 40mg/100ml in vial
2	Nitrofurazone	tablet, 100mg
3	Pefloxacin	tablet, 10mg; solution for injection, 10mg/5ml amp.
4	Pipermedic acid	tablet, 400mg; capsule, 200mg

### **6.4 Anti-protozoal drugs**

#### **6.4.1 Anti-amoebic and anti-giardiasis drugs**

1	Chingamine	injection, 5% - 5ml amp.
2	Chiniofone	tablet, 250mg
3	Metronidazole	tablet, 250mg

#### **6.4.5 Drugs for treatment trichomoniasis and others**

1	Cloridine	tablet, 10 mg
2	Metronidazole	tablet, 250 mg
3	Pentamidine	powder for injection, 20% - 10ml

---

## **8. Anti-neoplastic and immuno-suppressant drugs and drugs used in palliative care**

### **8.4 Anti-viral agents**

1	Acyclovir	capsule, 200 mg
2	Azathioprin	tablet, 50 mg
3	Bonaphton	tablet, 25 mg
4	Idoxuridine	solution, 0,1% - 10ml
5	Interferon alfa	powder for injection, 2ml
6	Methysazon	tablet, 200 mg

---

<b>9.</b>	<b>Anti-parkinsonism drugs</b>		
1	Benserazide + Levodopa	tablet, 25 mg +100 mg	
2	Biperiden	tablet, 2 mg	
3	Carbidopa + Levodopa	tablet, 10 mg + 100 mg,	25 mg +
		250 mg	
4	Levodopa	tablet, 100 mg, 250 mg	

---

**10. Drugs affecting the blood**

**10.1 Anti-anaemia drugs**

1.	Cyanocobalamin	injection, 30 mcg, 100 mcg, 200 mcg, 500 mcg
2.	Ferrous sulfate	capsules, 500mg, 1000mg
3.	Ferrous sulfate + folic acid	tablet, 60 mg + 250 mcg
4.	Folic acid	tablet, 1 mg, 5 mg; injection, 1mg/ml

**10.2 Drugs affecting coagulation**

1	Heparin	injection, 1000 IU/ml, 5000 IU/ml, 20000 IU/ml in 1ml amp.
2	Phenylinum	tablet, 30 mg
3	Protamine sulfate	injection, 10 mg/ml. - 5 ml in amp

**10.3 Anti-fibrinolytic drugs and haemostatics**

1	Aminocaproic acid	powder, 5g; injection, 5% - 100ml vial
2	Aminomethylbenzoic acid	tablet, 250mg
3	Aprotinin	powder for injections, 100000 IU, 300000 IU, 500000 IU in vials

---

**11. Blood products and plasma substitutes****11.1 Plasma substitutes**

1	Dextran-70	infusion, 6% - 200ml, 400ml in vial
2	Hemodes	infusion, 6% - 100ml, 200ml, 400ml
3	Polyglucyn	injectable solution, 200ml, 400ml

**11.2 Plasma fractions for specific uses**

1	Albumin, human	injectable solution, 5%, 10%, 20% - 50 ml, 100 ml
---	----------------	---

---

**12. Cardiovascular drugs****12.1 Anti-anginal drugs**

1	Atenolol	tablet, 50 mg, 100 mg
2	Glyceryl trinitrate	tablet, 500 mcg
3	Isosorbide dinitrate	tablet, 5 mg
4	Nifedipine	tablet, capsule, 10 mg

**12.2 Anti-dysrhythmic drugs**

1	Ajmaline	tablet, 50 mg; injection, 2.5% - 2 ml in amp.
2	Amiodarone	tablet, 200 mg; injection, 150 mg - 3 ml in amp.
3	Lidocaine	injection, 1% - 10ml
4	Procainamide	tablet, 250 mg, 500mg; injection, 100mg/ml - 10ml amp.
5	Propranolol	tablet, 10 mg, 40 mg; injection, 1 mg - 1ml, 5ml amp
6	Quinidine	tablet, 200 mg
7	Verapamil	tablet, 40 mg, 80 mg; injection, 2.5 mg/ml - 2ml amp.

### 12.3 Anti-hypertensive drugs

1	Aminophylline	injection 2.4% - 10ml in amp.
2	Amiodarone	tablet, 200 mg; injection, 150mg/3ml in amp.
3	Atenolol	tablet, 50 mg, 100 mg
4	Captopril	scored tablet, 25 mg
5	Clonidine HCl	tablet, 0.075mg - 0.3 mg; injection, 0.15 mg/1 ml in amp.
6	Diazoxide	injection, 15mg/ml - 1ml, 2ml amp.
7	Diltiazem HCl	tablet, 30mg, 60mg, 90 mg
8	Hygronium	powder for injections, 100mg
9	Methyldopa	tablet, 250 mg
10	Nifedipine	tablet, capsule, 10 mg
11	Pentamine	injection, 5% - 2ml amp.
12	Reserpine	tablet, 100 mcg, 250 mcg; injection, 1 mg in 1ml amp
13	Sodium nitroprusside	powder for injection, 50 mg in amp.
14	Verapamil	injection, 2.5 mg/ml - 2ml amp.

### 12.4 Cardiac glycosides

1	Digitoxin	tablet, 100 mcg
2	Digoxin	tablet, 62.5mcg, 250 mcg; injection, 250 mcg/ml in 1ml amp.
3	Milrinone	injection, 200 mcg/ml

### 12.5 Drugs used in vascular shock

1	Dobutamine	powder for injection, 100mg, 250 mg in vial
2	Dopamine	injection, 40 mg/ml - 5ml vial
3	Epinephrine	injection, 0.1% - 1ml in amp.

### 12.6 Anti-thrombotic drugs

1	Acetylsalicylic acid	tablet, 100 mg
2	Streptokinase	powder for injection, 100000 IU in vial

---

**13. Dermatological drugs**

**13.2 Anti-infective drugs**

1	Acricidum	solution, 0.05%, 0.2%; oinment, 5%, 10%
2	Brilliant green	spirit solution, 1%, 2% in vial
3	Methylthionium chloride (Methylene blue)	spirit solution, 1%, 3%
4	Silver sulfadiazine	cream, 1%

**13.3 Anti-inflammatory and anti-pruritic drugs**

1	Betamethasone	oinment, cream, 0.1%
2	Hydrocortisone	oinment, cream, 1%
3	Prednisolone	oinment, cream, 0.5%

**13.4 Astringent drugs**

1	Alluminium diacetate	solution for dilution, 13%
---	----------------------	----------------------------

**13.6 Scabicides and pediculicides**

1	Benzyl benzoate	suspension, 25%
2	Nittifor	solution, 80mg in vial

---

**14. Diagnostic agents**

**14.2 Radiocontrast media**

1	Barium sulfate	aqueous suspension
2	Iopanoic acid	tablet, 500 mg
3	Propyliodone	oily suspension, 500-600 mg/ml - 20ml amp.
4	Verografine	injection, 60%, 76% - 20 ml amp.

---

**15. Disinfectants and antiseptics**

**15.1 Antiseptics**

1	Cerigelum	solution, 400ml vial
2	Chlorhexidine	solution, 20% for dilution, 300ml, 500ml, 5 liters
3	Hydrogen peroxide	solution, 3%
4	Iodine	solution, 2%

**15.2 Disinfectants**

1	Calcium hypochlorite	powder (70% available chlorine) for solution
2	Chloramine B	solution, 1%, 5%
3	Phenol	pure solution, 3%, 5%

**16. Diuretics**

1	Amiloride	tablet, 5 mg
2	Ammonium chloride	solution, 2.5% - 200 ml
3	Furosemide	tablet, 40 mg; injection, 10mg/ml, - 2 ml amp.
4	Hydrochlorothiazide	tablet, 25 mg, 50 mg
5	Mannitol	injectable solution, 15%
6	Spirolactone	tablet, 25 mg

---

**17. Gastrointestinal drugs****17.1 Antacids and other anti-ulcer drugs**

1	Aceclidine	injection, 0.2% - 1 ml, 2 ml amp.
2	Aluminum and Magnesium hydroxide	suspension, 170 ml, 200 ml in bottle
3	Aluminum hydroxide	tablet, 500 mg; oral suspension, 320 mg/5 ml
4	Calcium carbonate	powder
5	Fomatidine	tablet, 30 mg
6	Hyoscine	injection, 20 mg - 1 ml amp.
7	Magnesium hydroxide	oral suspension, equivalent to 550mg magnesium oxide/10 ml
8	Omeprazole	capsule, 20mg
9	Pirenzepine HCl	tablet, 25mg, 50mg; injection, 5mg/ml
10	Ranitidin	tablet 0.15gm; injection, 50 mg, 100 mg in amp.

**17.2 Anti-emetic drugs**

1	Metoclopramide	tablet, 10 mg; injection, 5mg/ml in 2ml amp
2	Promethazine	tablet; 10 mg, 25 mg; elixir; syrup, 5 mg/5 ml
3	Thiethylperazine	tablet, 6.5mg; injection, 6.5mg/ml

**17.3 Anti-haemorrhoidal drugs**

1	Anusolum	suppository
2	Bethiolum	suppository
3	Butadion	ointment, 5%

**17.4 Anti inflammatory drugs**

1	Hydrocortisone	suppository, 25 mg
2	Sulfasalazine	tablet, 500 mg

**17.5 Antispasmodic drugs**

1	Atropine	injection, 1 mg/ml in amp.
2	Methacinum	tablet, 2mg; injection, 0.1% - 1 ml amp.
3	Pirenzepine hydrochloride	tablet, 25mg, 50mg; injection, 5mg/ml
4	Platyphylline hydrotartrate	injection, 0.1% - 1 ml amp.

## 17.6 Cathartic drugs

1	Bisacodyl	dragee, 5mg; suppository, 10mg
2	Senna	tablet, 7.5mg

## 17.7 Drugs used in diarrhea, oral rehydration

1	Regidrone Oral rehydration salts (for glucose-electrolyte solution)	powder, 27.9 g/l
	Components	g/l
	potassium chloride	1.5
	trisodium citrate dehydrate	2.9
	sodium chloride	3.5
	glucose	20.0

---

## 18. Hormones, other endocrine drugs and contraceptives

### 18.1 Adrenal hormones and synthetic substitutes

1	Desoxycorticosterone acetate	tablet, 5 mg; injection 0.5% - 1ml in oil
2	Dexamethasone	tablet, 500 mcg, 4 mg; inject. 4mg/1ml in amp.
3	Hydrocortisone acetate	powder for inject., 100mg in vial
4	Prednisolone	tablet, 1mg, 5mg
5	Triamcinolone	tablet, 5mg

### 18.3 Contraceptives

1	Depo medroxyprogesterone	injection, 150mg/ml - 1ml vial, 50mg/ml - 3ml vial
2	Ethinylestradiol + levonorgestrel	tablet, 30 mcg + 150 mcg, 50 mcg + 250 mcg
3	Ethinylestradiol + norethisterone	tablet, 50 mcg + 1.0 mg

### 18.4 Estrogens

1	Ethinylestradiol	tablet, 10mcg, 50mcg
---	------------------	----------------------

### **18.5 Insulins and other anti-diabetic agents**

1	Glibenclamide	tablet, 5mg
2	Insulin injection (soluble)	injection, 40 IU/ml - 10ml vial, 80 IU/ml - 10ml vial, 100 IU/ml - 10 ml vial

### **18.6 Ovulation inducers**

1	Clomifene	tablet, 50 mg
---	-----------	---------------

### **18.7 Progestogens**

1	Norethisterone	tablet, 5 mg
---	----------------	--------------

---

## **19. Immunologicals**

### **19.2 Sera and immunoglobulins**

1	Anti-tetanus immunoglobulin (human)	injection, 500 IU in vial
---	-------------------------------------	---------------------------

### **19.3 Vaccines**

1	BCG vaccine ( dried )	injection
2	Gonovaccine	injection
3	Poliomyelitis vaccine (inactivated)	injection
4	Rabies vaccine	injection
5	Tetanus vaccine	injection

---

## **20. Muscle relaxants (peripherally acting) and cholinesterase inhibitors**

1	Neostigmine	injection, 500mcg in 1ml amp.
2	Pempidine tosylate	tablet, 5 mg.
3	Pipecuronium bromide	powder for injection, 4 mg (0.9% NaCl in amp).
4	Truxicuriium iodide	injection, 0.7% - 2 ml amp.

---

**22. Oxytocics and anti-oxytocics****22.1 Oxytocics**

1	Dinoprostone	injection, 1 mg, 5 mg in amp.
2	Ergometrine	tablet, 200 mcg; injection, 0.02% - 1ml amp.
3	Oxytocin	injection, 5 IU/ 1ml in amp.

**22.2 Anti-oxytocics**

1	Salbutamol	tablet, 4 mg; injection, 50 mcg/ml - 5ml amp.
2	Magnezium sulphate	injection, 25% - 5ml, 10ml amp.

---

**23. Psychotherapeutic drugs**

1	Amitriptyline	tablet, 25 mg
2	Chlorpromazine	injection, 25mg/ml - 1ml, 2ml amp.
3	Diazepam	injection, 5mg - 1ml, 2 ml amp.
4	Imipramine	tablet, 25 mg
5	Mesocarbe	tablet, 5mg, 10mg, 25mg
6	Nialamidum	tablet, dragee, 25 mg
7	Pirlindole	tablet, 25mg, 50mg

---

**24. Drugs acting on the respiratory tract****24.1 Anti-asthmatic drugs**

1	Aminophylline	tablet, 100mg, 200mg;
2	Beclomethasone	inhalation (aerosol), 50 mcg per dose
3	Ephedrine HCl	tablet, 30 mg; injection, 50 mg in 1ml amp.
4	Epinephrine	injection, 0.1% - 1ml in amp.
5	Salbutamol	tablet, 2mg, 4mg; inhalation, 0.5% - 100 mcg per dose

## 24.2 Anti-tussives and expectorants

1	Acetylcistein	injection, 10% - 2 ml amp.; inhalation, 20% - 5 ml
2	Bromhexine	tablet, 4mg; syrup
3	Codeine	tablet, 10mg
4	Oxaladine citrate	syrup, 50 ml

---

## 25. Solutions correcting water, electrolyte and acid-base disturbances

### 25.1 Oral rehydration

1	Regidrone (glucose-electrolyte solution)	powder 27.9 g/l
---	---	-----------------

COMPONENTS	g/l
potassium chloride	1.5
trisodium citrate dehydrate	2.9
sodium chloride	3.5
glucose	20.0

### 25.2 Parenteral

1	Glucose	injectable solution, 5%, 50%
2	Glucose with sodium chloride	injectable solution, 4% glucose, 0.18% sodium chloride
3	Potassium chloride	injection, 4% - 10ml amp.
4	Sodium chloride	injectable 0.9% isotonic solution
5	Sodium hydrocarbonate	injection, 4% - 20ml amp.
6	Sol. Ringer-Locke	tablet for solution

---

**26. Vitamins and minerals**

1	Ascorbic acid	tablet, 50 mg; injection, 5%, 10% - 1ml, 2ml amp.
2	Calcium pangamate	tablet, 50 mg
3	Cyancobalamin	injection, 0.001%, 0.002%, 0.003%, 0.05% - 1ml amp.
4	Ergocalciferol	capsule, 1.25 mg (50000 IU)
5	Folic acid	tablet, 5 mg
6	Nicotinic acid	tablet, 50mg; injection, 1% - 1ml amp.
7	Pyridoxine	tablet, 2mg, 5mg, 10mg; injection, 1%, 5% - 1ml amp.
8	Retinol	dragee, 33000 IU
9	Riboflavine	tablet, 5 mg
10	Thiamin	tablet, 2mg; injection 2.5%, 3% - 1ml amp.
11	Tocopherole acetate	sol. in oil, 5%, 10%, 30% - 1ml

---

**27. Analeptics**

1	Bemegrade	injection, 0.5% - 10 ml amp.
2	Camphorae	injection, 20% - 2 ml amp.
3	Ethimisol	powder for inject., 100 mg, 1%, 1.5% - 3ml, 5ml.

---

**28. Hypnotics and sedatives**

1	Chlordiazepoxide	tablet, 5mg, 10mg, 25mg; powder for injection, 100mg
2	Diazepam	injection, 0.5% - 2ml amp.
3	Nitrazepam	tablet, 5mg; suspension, 2.5ml, 5ml
4	Oxibutirate sodium	injection, in 10ml amp.
5	Phenobarbital	tablet, 15mg, 100mg
6	Sombrevin	injection, 5% - 10ml amp.

**ANNEX B**

**PHARMACY AND THERAPEUTICS COMMITTEE**

## ANNEX B Pharmacy and Therapeutics Committee

The many drugs available (the majority of which are imported) and the complexities surrounding their safe and effective use make it necessary for the hospital to have a sound program for maximizing rational drug use. The Pharmacy and Therapeutics (P&T) Committee is the organizational keystone to this program.

The P&T Committee evaluates for the hospital the clinical use of drugs, develops policies for managing drug use and drug administration, and manages the drug formulary system. This committee is composed of physicians, pharmacists, and nurses selected by the chief physician of the hospital. It is a policy-recommending body to the medical staff and the administration of the hospital on matters related to the therapeutic use of drugs.

### Purposes

The primary purposes of the P&T committee are:

- **Policy Development.** The committee formulates policies regarding the evaluation, selection and therapeutic use of drugs for the hospital.
- **Education.** The committee recommends or assists in the formulation of programs designed to meet the needs of its professional staff (physicians, nurses, and pharmacists) for complete current knowledge of matters related to drugs and drug use.

### Organization and operation

While the composition and operation of the P&T Committee might vary among hospitals, the following generally will apply:

- The P&T Committee should be composed of a minimum of five to a maximum of 10 of the following voting members: physicians, pharmacists, nurses, and others as appropriate. The size of the committee may vary depending on the scope of services provided by the hospital. Committee members should be appointed by the chief physician of the hospital for staggered two-year terms.
- A chairperson from among the physician representatives should be appointed. The pharmacist should be designated as secretary.
- They should meet regularly, at least six times per year, and more often when necessary.
- The committee should invite to its meetings persons within or outside the hospital who can contribute specialized or unique knowledge, skills, and judgments.
- An agenda and supplementary materials (including minutes from the previous meeting) should be prepared by the secretary and submitted to the committee members in sufficient time before each meeting for them to review the material properly.
- Minutes of committee meetings should be prepared by the secretary and maintained in the permanent records of the hospital.
- Recommendations of the committee should be presented to the chief physician for adoption or recommendation.

- Liaison with other hospital committees concerned with drug use should be maintained.
- Actions of the committee should be routinely communicated to the various health-care staff involved in the care of patients.
- The committee should be organized and operated in a manner that ensures the objectivity and credibility of its recommendations.
- The committee should recommend to the chief physician for his approval a conflict of interest policy with respect to committee recommendations and actions.
- In formulating drug use policies for the hospital, the committee should be attentive to the content and changes in pertinent guidelines and policies of the national, oblast or city health departments ,and others as appropriate.

### **Functions and scope**

The basic organization of each hospital and its medical staff may influence the specific functions and scope of the P&T Committee. The following list of committee functions is offered as a guide:

- To serve in an evaluative, educational, and advisory capacity to the medical staff in all matters pertaining to the use of drugs.
- To develop a formulary of drugs accepted for use in the hospital and provide for its periodic revision. The selection of drugs to be included in the formulary should be based on objective evaluation of their relative therapeutic merits, safety, and cost. The committee should minimize duplication of the same basic drug type, drug entity or drug product.
- To establish programs and procedures that help ensure safe and effective drug therapy.
- To establish programs and procedures that help ensure cost-effective drug therapy.
- To establish or plan suitable educational programs for the hospital's medical staff on matters related to drug use.
- To participate in Total Quality Management (TQM) activities related to distribution, administration, and use of medications.
- To monitor and evaluate adverse drug reactions in the hospital and to make appropriate recommendations to prevent their occurrence.

**ANNEX C**

**THE DRUG FORMULARY SYSTEM**

## ANNEX C: The Drug Formulary System

- The care of patients in hospitals is often dependent on the effective use of drugs. The many drugs available in the market place makes it mandatory that a sound program of drug usage be developed within the hospital to ensure the patients receive the best possible care.
- In the interest of better patient care, the hospital should have a program of objective evaluation, selection, and use of medicinal agents in the hospital. This program is the basis of appropriate and economical drug therapy. The drug formulary system is a method of providing such a program.
- The P&T Committee represents the official organizational line of communications and liaison between the medical and pharmacy staffs. The committee is responsible to the medical staff as a whole, and its recommendations are subject to approval by the chief physician.
- The P&T Committee assists in the formulation of broad professional policies related to drugs in the hospital, including their evaluation or appraisal, selection, procurement, storage, distribution, and safe use.

### Definition of Drug Formulary and Drug Formulary System

The *drug formulary* is a periodically revised list of pharmaceuticals that reflects the current clinical judgment of the medical staff.

The *drug formulary system* is a method whereby the medical staff of the hospital, working through the P&T Committee, evaluates, appraises, and selects from among the numerous available drug entities and drug products those that are considered the most useful in patient care. Only those so selected are routinely available from the pharmacy. The drug formulary system is thus an important tool for assuring the quality of drug use and controlling its cost. The drug formulary system provides for the procuring, prescribing, dispensing, and administering of drugs under either their non-proprietary or proprietary names in instances where drugs have both names.

### Guiding Principles

- The following principles will serve as a guideline for physicians, pharmacists, and nurses in hospitals utilizing the drug formulary system:
- The chief doctor shall appoint a multidisciplinary P&T Committee and outline its purposes, organization, function and scope.
- The drug formulary system shall be supported by the hospital, based on the recommendations of the P&T Committee. The medical staff should adopt the principles of the system to the needs of the its hospital.
- The hospital shall adopt written policies and procedures governing the drug formulary system as developed by the P&T Committee. These policies and procedures shall afford guidance in the evaluation or appraisal, selection, procurement, storage, distribution, safe use , and other matters relating to drugs and shall be published in the hospital's drug formulary available to all members of the medical staff.

- Drugs should be included in the formulary by their generic or international non-proprietary names, even though proprietary names may be in common use in the hospital. Physicians should be strongly encouraged to prescribe drugs by their non-proprietary names.
- Limiting the number of drug entities and drug products routinely available from the pharmacy can produce substantial patient-care and particularly financial benefits. These benefits are greatly increased through the use of *generic equivalents* (drug products considered to be identical with respect to their active ingredients)
- The P&T Committee must set forth policies and procedures governing the dispensing of generic and therapeutic equivalents. These policies and procedures should include the following:
  - That the pharmacy is responsible for selecting, from available generic equivalents, those drugs to be dispensed pursuant to physicians order for a particular drug product.
  - The hospital shall make certain that its medical and nursing staff are informed about the existence of the drug formulary system, the procedures governing its operation, and any changes in those procedures. Copies of the drug formulary must be readily available and accessible at all times.
  - Provision shall be made for the periodic appraisal and use of drugs not included in the formulary by the medical staff.
  - The pharmacist shall be responsible for specifications as to the quality, quantity, and source of supply of all drugs, chemicals, biologicals, and pharmaceutical preparations used in the diagnosis and treatment of patients.
  - Exceptions to use of formulary drugs may be granted by the Chief Physician.

### **Guidelines on Drug Formulary System Management**

The purposes of these guidelines are to:

- Provide an outline of recommended techniques and processes for drug formulary system management.
- Define terms associated with drug formulary system management.
- Provide guidance and direction to pharmacists on how to apply the concepts of drug formulary system management within the context of the “Drug Formulary System.”
- Describe the pharmacist’s responsibility, in cooperation with the medical staff, in management of the formulary system.

The drug formulary system is the method for evaluating and selecting suitable drug products for the formulary of the hospital. Formulary system management is the application of various techniques to ensure high quality and cost-effective drug therapy through the drug formulary system.

The formulary of the hospital is a list of drugs that are considered by the medical staff to be the most useful in patient care.

Development, maintenance, and approval of the formulary are the responsibilities of the P&T committee which exists as a committee of the hospital. These responsibilities include oversight of the procedures used to carry out these formulary functions.

Three key elements are important for the establishment and maintenance of a credible drug formulary. They are:

1. A collaborative working relationship among physicians, nurses and pharmacists.
2. A defined medical staff that works for the hospital.
3. An interdisciplinary P&T Committee as a committee of the hospital.

### **Principles of Drug Formulary System Management**

The purpose for ongoing management of the drug formulary system is to optimize patient care through rational selection and use of drugs and drug products within the hospital. Pharmacists play a primary role in assessing the relative safety and efficacy of pharmaceuticals nominated for addition to or deletion from the drug formulary. Through the application of techniques of formulary system management and through the reevaluation and improvement of these techniques as necessary, the effectiveness of the formulary system is continuously assessed, resulting in quality improvement of the overall drug use process. Both therapeutic outcomes and costs related to the drug use process can thus be optimized.

Physician acceptance of the drug formulary management process is essential to effect quality improvements through formulary system management. Pharmacists play a key leadership role in fostering this acceptance by clarifying and supporting the goals and processes of formulary system management. Restated, the goal of formulary system management should be sound therapeutics. To achieve this goal successfully, physicians should be actively involved in developing the techniques used to manage the formulary system. Communication and understanding among pharmacists, nurses and physicians, and the P&T Committee members should be timely and routine. Pharmacists should ensure that a balanced presentation of drug information is provided to physicians.

Techniques of formulary system management fall into three general categories: (1) drug use evaluation, (2) formulary maintenance, and (3) drug product selection.

### **Drug Use Evaluation**

Drug use evaluation is ongoing, structured, organizationally authorized process designed to ensure that drugs are used appropriately, safely, and effectively. A well-designed drug use evaluation program applies continuous total quality management methods to the drug use process. Drug use evaluation should be a part of the hospital's overall quality-assurance program. Drug use evaluation is a quality-assurance activity, but it may also be considered a formulary system management technique. The P&T Committee should be involved in the drug use evaluation process.

Effective drug use evaluation begins with drug use criteria or treatment guidelines approved by the P&T Committee on behalf of the hospital. Drug use evaluation should measure and compare the outcomes of patients whose treatment did, or did not, comply with approved criteria or guidelines. Based on this comparative information, criteria or guidelines can be revised, compliance can be encouraged, educational programs can be initiated, or changes can be made to the drug formulary system. A drug use evaluation program should include provisions for periodic review of all components of the system.

***Drug Use Criteria.*** In cases where a drug poses potential efficacy, toxicity, or utilization problems for the hospital, criteria may be established by the P&T Committee to promote appropriate use. Drug use criteria are approved guidelines regarding how, or under what conditions, a drug is recommended for use. Preliminary drug use criteria should be developed at the time that a drug is proposed for addition to the formulary. Drug use criteria should be updated as needed over time. There are three general types of criteria: diagnosis criteria, prescriber criteria, and drug-specific criteria. Criteria of any type can be used independent-entry or in combination.

***Diagnosis criteria*** identify indications that constitute acceptable uses for a formulary drug within the hospital. Protocols, if any, for restricting the use of a formulary drug to specific diagnoses or medical conditions should be established by the P&T Committee.

***Prescriber criteria*** identify prescribers approved to use specific formulary drugs or drug classes.

***Drug specific criteria*** identify approved doses, frequency of administration, duration of therapy, and other aspects that are specific for the use of a formulary drug.

***Treatment guidelines.*** Treatment guidelines are similar to drug use criteria, except that treatment guidelines focus on disease-based drug therapy. Whereas drug use criteria relate to a specific drug, treatment guidelines outline a recommended therapeutic approach to specific diseases. This approach generally identifies the use of several different drugs, depending on disease severity or specific patients characteristics. Treatment guidelines are typically developed and approved by the P&T Committee for high risk, high volume, or problem-prone diseases entrenched in the hospital.

## **Formulary Maintenance**

Formulary maintenance techniques include

- Therapeutic drug class review,
- Processes by which drug products are added to or deleted from the formulary, and
- Use of non-formulary drugs in unique patients situations.

To be effective in approving the drug use process, the medical staff and pharmacists must work collaboratively. The pharmacist should assume responsibility and leadership role in the development and presentation of information required by the P&T Committee for decision-

making. The medical staff must understand and support the process by which these techniques are applied, as well as participate in the development and review of information.

***Therapeutic drug class review.*** It is useful for the P&T Committee to review the use and therapeutic effects of several classes of drug products every year. These reviews can be prompted by criteria set by the P&T Committee itself. For example, based on the number of adverse drug reaction reports, new information in the medical literature, or drug class expenditures, the committee can determine which classes of formulary drugs are worthy of reassessment.

The goal is to identify preferred agents based on effectiveness, toxicity, or cost differences within the same class. It is important that appropriate medical staff input, outside the committee, be solicited during these reviews. Outcomes of therapeutic class reviews can include development of new drug use criteria, new treatment guidelines, or changes to the drug formulary.

***Formulary Addition or Deletion.*** To strengthen the ability of the P&T Committee to make sound decisions on changes to the formulary, it is recommended that there be an approved policy and procedures for requesting changes to the formulary. This process typically involves submission of a request to the P&T Committee by pharmacists or members of the medical staff.

Consideration of a drug for addition to the formulary should include a review of an evaluation report prepared by the pharmacy. In addition to monograph information, an impact statement describing the effect of the proposed change to the quality and cost of patient care and drug therapy should accompany each request for addition to or deletion from the formulary.

The use of predetermined decision-reassessment dates is advised (e.g., the drug is placed on the formulary for a six-month evaluation) to allow the committee to review the actual impact of certain formulary decisions. Reassessment dates are especially useful in situations where the expected impact of the formulary decision on the quality or cost of the drug therapy may be significant or uncertain.

***Use of non-formulary Drug.*** In general, only formulary drugs are endorsed as appropriate for routine use within the hospital. The underlying principle for the existence of a process for approval of non-formulary drugs is that individual or unique patient needs can exist that may not be satisfied by the use of formulary drugs.

There should be an approval policy and procedures for obtaining approval for use of non-formulary drugs. This process should include the generation of information on the use of non-formulary drugs to enable the P&T Committee to review trends in non-formulary drug use, which may influence formulary addition or deletion decisions. There should also be a process in place for obtaining non-formulary drugs in a timely manner.

## **Drug Product Selection**

Pharmacists should assume a leadership role in drug product selection by proposing opportunities for drug product selection. This includes evaluation and assessment of bio-equivalence data; storage, dispensing, and administration characteristics; cost; and other relevant product information. Pharmacists must also ensure that products of adequate quality are procured.

***Generic substitution.*** Generic substitution is defined as the substitution of drug products that contain the same active ingredient(s) and are chemically identical in strength, concentration, dosage form, and route of administration to the drug product prescribed. These products can also be termed “generic equivalents” and should display therapeutic equivalence.

The key word in this definition is “identical.” For example, the substitution of one brand of propranolol tablets to another represents the application of generic substitution if the strength of the active ingredients and the dosage form are identical. To ensure quality patient care, the two propranolol products must also be shown to achieve therapeutic equivalence as defined above.

The P&T Committee is responsible for determining which drugs are acceptable for generic substitution and for developing guidelines for pharmacists who carry out this formulary system management activity. Typically, pharmacists determine which products are purchased and dispensed as generic substitutes. Notification of generic substitution is generally not provided to the prescriber at the time that a generic equivalent is dispensed.