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APPENDIX



INSTRUMENTS :-

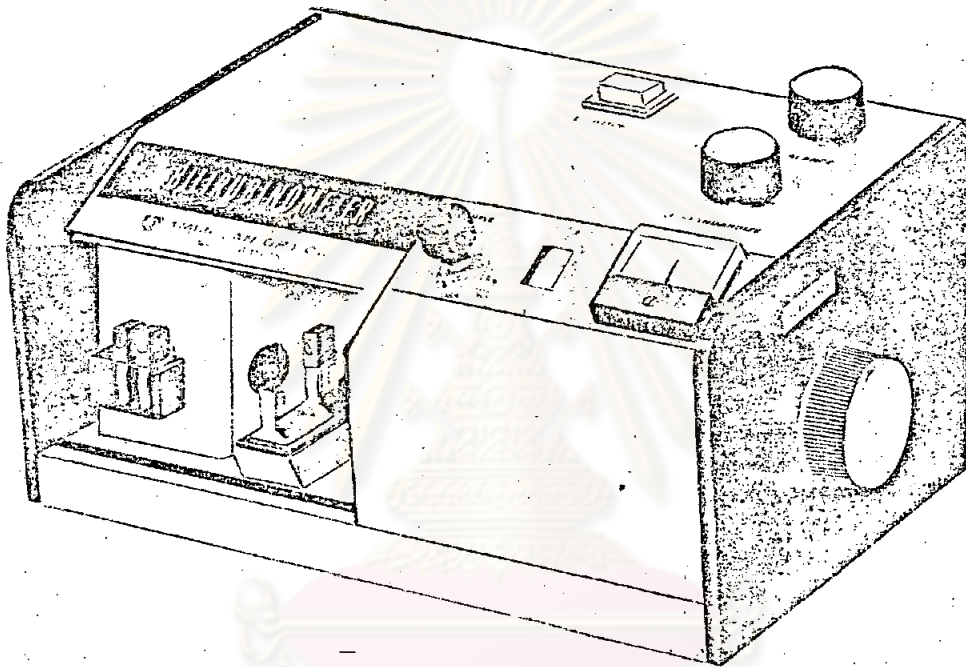
AO BILIRUBINOMETER Model 10200 (figure 15)

The AO Bilirubinometer is an instrument designed specifically to quickly and accurately measure total bilirubin concentration of the newborn infant from untreated micro samples of blood serum. Basically, measures the color of the bilirubin concentration and compares this color to highly stable reference standard by its optical properties.

The reference standard is a multi-layer glass filter of high stability that stimulates the absorption of bilirubin in serum at a value near 14 mg. per 100 ml. The standard will not change in with time or if exposed to bright room light. The scale range of the AO Bilirubinometer is from 0 to 30 mg. per 100 ml. in 0.5 mg. increments. The value of the standard supplied for a given instrument will be within the 13 to 16 mg. per 100 ml. The scale also has a reference line at -.8 mg. per 100 ml.

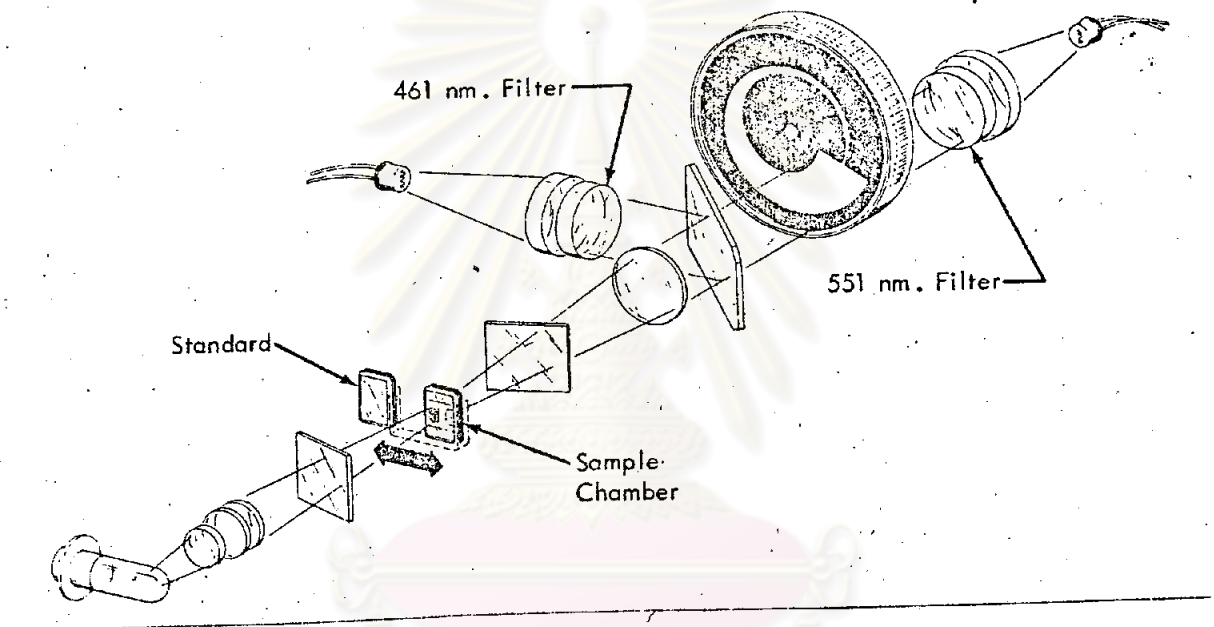
Design Principles :- A low level of light is transmitted through the test sample and as shown in figure 16, is divided by a beam splitter into two branches. Each branch contains a band pass filter and a photodetector. One band pass filter transmits at 461 nm. which is

Figure 15. AO Bilirubinometer (American Optical Co.) model AO 10200.



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จุฬาลงกรณ์มหาวิทยาลัย

Figure 16. Design principles of Bilirubinometer.



ศูนย์วิทยุทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

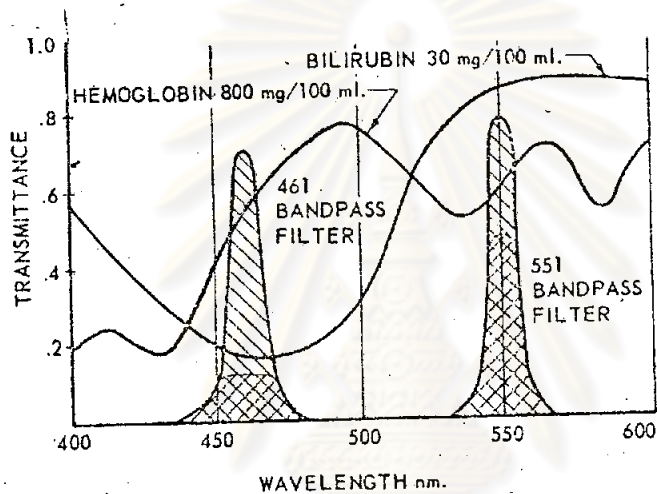
the wavelength for maximum absorption of bilirubin in serum and the other at 551 nm. As shown in the curve (figure 17), the 551 wavelength is used because the absorption of hemoglobin is the same as it is at 461. Since the instrument reads the difference between the response of the two photo cells at 461 and 551. It automatically corrects for hemoglobin present in the sample. The scale readout pointer then indicates the mg. per 100 ml. value of the total bilirubin concentration of the test sample. Operation of the instrument is shown in figure 18.

The AO Bilirubinometer has proven to be such an aid for doctor, nurse, and technician in determining level of serum bilirubin faster, accurately and closely. Only a small drop of unmodified blood serum is required for test; no reagents are needed. There no waiting periods during the test and no mathematics or conversion tables are required at the end of the test. .

MICRO CAPILIARY READER no. 2201 (figure 19) (Damon/IEC Division).

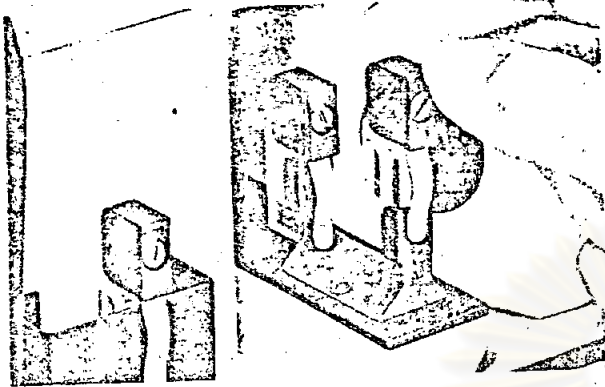
The hematocrit (volume packed cells) is defined as the ratio of the volume of packed red cells to volume of the original blood sample, multiplied by 100. Since the capillary tube is of uniform bore, the hematocrit may be easily determined by measuring the length of the column of packed red cells against the overall length of the blood sample. The hematocrit value may then be redefined as follow:-

Figure 17. Curve Transmittance in Bilirubinometer.

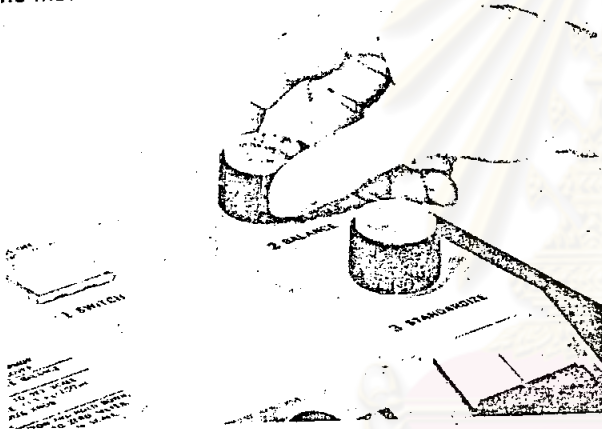


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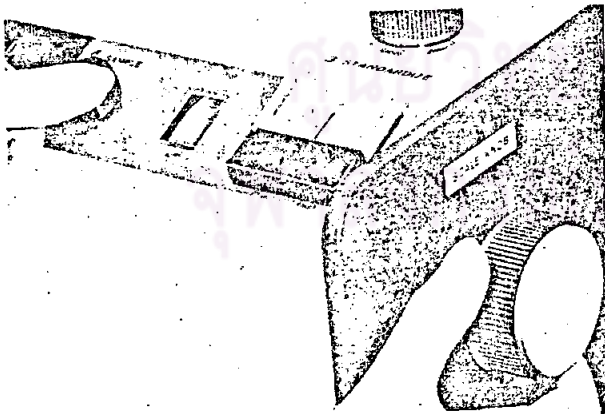
Figure 18. Operation of Bilirubinometer.



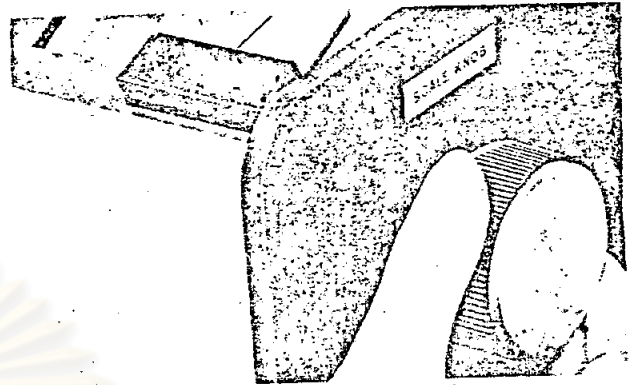
1. Just a drop (.013 milliliter) of serum is needed to fill the cavity in the sample chamber. The chamber and its holder are positioned on the slide mechanism of the instrument.



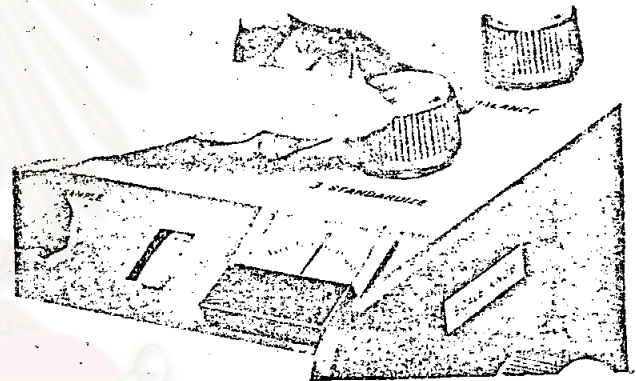
3. The instrument is balanced electronically. The balance knob is pressed down and rotated to "zero" the meter.



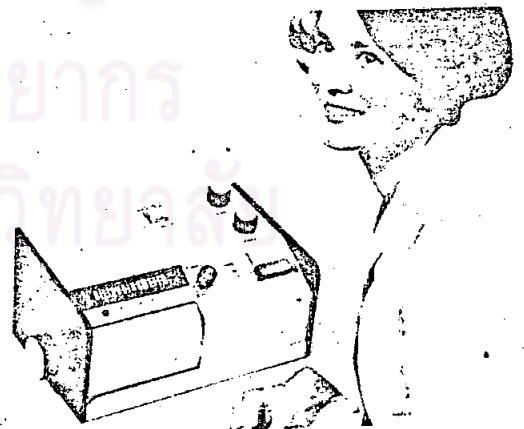
5. The sample button is pressed down to position the serum sample in the light path. The scale knob is rotated to again zero the meter and the value of the sample read from the scale.



2. Using the scale knob, the scale is positioned so that the pointer is set at the mg./100 ml. value of the reference standard.

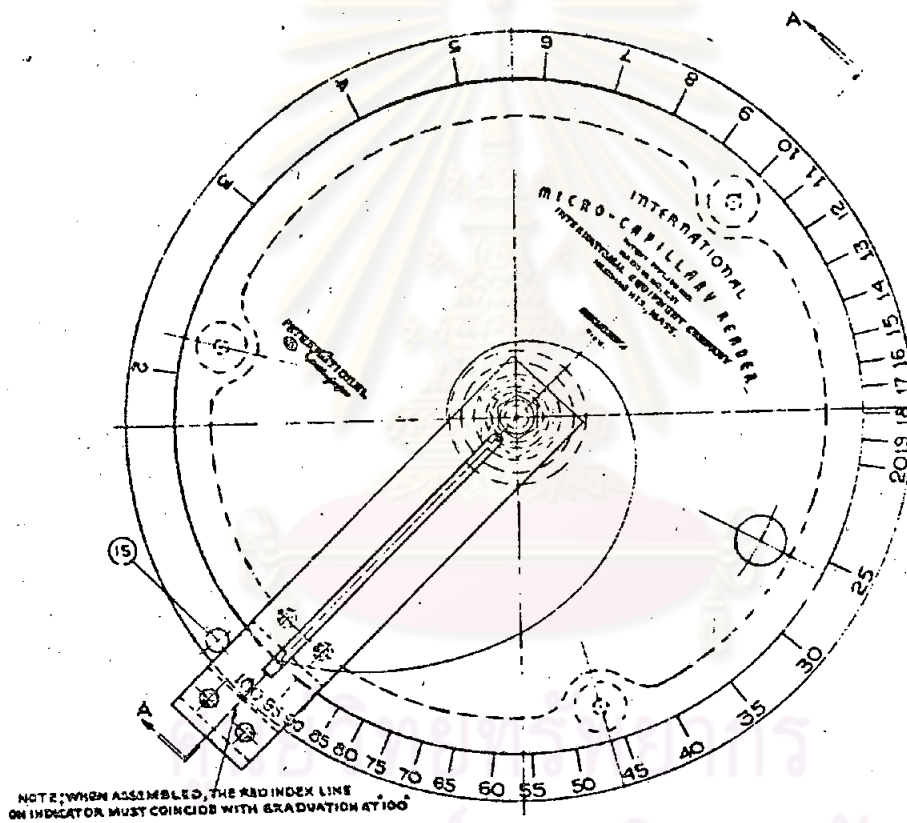


4. To establish a ratio of photo cell responses, the standardize knob is rotated until the meter reads zero.



6. The readout is directly in mg./100 ml. In just 60 seconds or less, the entire testing procedure has been accurately accomplished!

Figure 19. Model of Micro-Capillary Reader no. 2201, (Damon/I.E.C. Division).





$$\text{Hematocrit} = 100 \times \frac{\text{Length of column of packed red cells}}{\text{Overall length of blood sample}}$$

Usually the two lengths are measured with the aid of special mechanical reading devices. Such devices present the final hematocrit value without requiring any computation by the operator. The micro method for determination of hematocrit has been widely used in clinical laboratories of many years. The results of micro-hematocrit determination are recognized as being fully equivalent to the results of macro determination.

HEPARINIZED MICRO HEMATOCRIT CAPILLARY TUBE

It is the small glass capillary tube which is initially coated with heparin (2 USP units ammonium heparin derived from porcine mucosa); this anticoagulant is non-reactive with the separation of blood cells and plasma is placed inside of the capillary tube as a catalytic preservative. Length 75 mm., ID. 1.1 mm. - 1.2 mm., wall thickness 0.20 mm. \pm 0.02 mm. It is used for micro hematocrit determinations for in-vitro diagnosis.

DRUGS :-

The drugs are listed under the trade name with the amounts of their individual ingredients per tablet or liquid dose. The major conclusion from this study for medication is to warn young women not to take any drug during their pregnancy without proper advice.

AMPICILLIN CAPSULE.

Contain :- Ampicillin 250 mg. per capsule.

Indication :- Ampicillin is indicated in the treatment of infection due to the results of sensitivity testing.

Contraindication :- Ampicillin is contraindicated in patients with history of hypersensitivity to any penicillin.

Usage in pregnancy :- Safety for use in pregnancy has not been established.

Dosage and administration :-

Respiratory tract; 250 mg. every 6 hours,

Gastrointestinal tract; 500 mg. every 6 hours,

Genitourinary tract, Urethritis in male or female due to N.

gonorrhoea; 3.5 gm. single oral dose administered simultaneously with 1 gm. of probenecid.

BIOTAPLEX[®] TABLET (Asian TJD.)

Contain :- Benfotiamine	50	mg.
Vitamin B2	5	mg.
Vitamin B6	5	mg.
Vitamin B12	5	mcg.
Vitamin C	50	mg.
Calcium pantothenate	10	mg.

Indication :- For vitamin B and C deficiency.

Dosage :- 1-3 tablets daily.

CALFERMIN-C[®] TABLET (Thai-Japan Laboratory Ltd.)

Contain :- Ferrous fumarate	250.0 mg.
Vitamin B1	0.75 mg.
Vitamin B2	0.50 mg.
Vitamin B6	0.75 mg.
Vitamin C	5.75 mg.
Vitamin D	500 IU.
Niacinamide	7.50 mg.
Dicalcium phosphate	67.75 mg.
Calcium lactate	25.75 mg.
Menadione sodium bisulphite	1.25 mg.
Ammonium molybdate	3.75 mg.

Indication :- For iron deficiency anemia, anemia of pregnancy, nutritional and parasitic anemia, hemorrhage anemia, infantile anemia and convalescence.

Dosage :- Adult; 1-2 tablets, 3 times daily, after meal.

Children; 1 tablet, 3 times daily, after meal.

Caution :- Avoid drinking tea or coffee within 30 minutes before or after taking Calfermin-C.

CHLORPHENIRAMINE MALEATE TABLET 4 mg.

Chemical name :- 2-(p-chloro- -(2-(dimethylamino)ethyl)benzyl)pyridine maleate 1:1

Action :- Antihistamine with anticholinergic (drying) and sedative effect. Antihistamines appear to compete with histamine for cell receptor sites on effector cells.

Contraindication :- This drug should not be used in newborn or premature infants.

DUMOCYCLINE[®] (Dumex Ltd.)

Contain :- Tetracycline HCl. (phosphate buffered) 250 mg.

Action :- Tetracycline are primarily bacteriostatic and are thought to exert their antimicrobial effect by the inhibition of protein synthesis. Tetracycline are active against a wide range of gram negative and gram positive organisms.

Indication :- It is indicated in infections due to sensitivity testing.

Usage in pregnancy :- Results of animal studied indicated that tetracycline cross the placenta, are found in fetal tissue, and can have toxic effects on the developing fetus (often related to retardation of skeletal development). Evidence of embryotoxicity has also been noted in animals treated early in pregnancy.

Dosage and Administration :- Therapy should be continued for at least 24 to 48 hours after symptoms and fever have subsided. In patients with renal impairment total dosage should be decreased by reduction of recommended individual doses and/or by

extending time intervals between doses. In the treatment of streptococci infection, a therapeutic dosage should be administered for at least 10 days.

Adults; usual daily dosage 1 to 2 gm. divided in two or four equal doses, depending on the severity of the infections.

Children; above 8 years of age, usual daily dosage, 10 to 20 mg. (25 to 50 mg/kg) per pound of body weight divided in four equal doses.

Food and some dairy products also interfere with absorption. Oral form of tetracycline should be given 1 hour before or 2 hours after meals. Pediatric oral dosage forms should not be given with milk formula and should be given at least 1 hour prior to feeding.

FERLI -6[®] (Continental Pharm. Co. Ltd.)

Contain :-	Ferrous fumarate	200	mg.
	Folic acid	5	mg.
	Vitamin B6	5	mg.

Indication :- Iron deficiency anemia, megaloblastic anemia, malabsorption.

Dosage :- 1 tablet, 3 times per day.

FERO-B-CAL[®] TABLET (Unichem Distribution Ltd.)

Contain :- Ferrous gluconate B.P.	0.25 gm.
Calciferol (Vit. D)	500 IU.
Menadione sod. bisulphite	1.25 mg.
Vitamin B1	1.25 mg.
Vitamin B2	0.75 mg.
Vitamin C	7.50 mg.
Niacin	7.50 mg.
Calcium phosphate	37.50 mg.
Calcium lactate	37.50 mg.
Ammonium molybdate	3.75 mg.

Indication :- Anti-anemia.

Dosage :- As directed.

FOLIAMIN[®] TABLET (Paiboon Watana Co. Ltd.)

Contain :- Folic acid 5 mg. per tablet.

Action :- Acts on megaloblastic bone marrow to produce a normoblastic marrow.

Indication :- It is effective in the treatment of megaloblastic anemia due to a deficiency of folic acid (as may be seen in tropical or non-tropical sprue) and in anemias of nutritional origin, pregnancy, infancy or childhood.

Administration and dosage :- The usual therapeutic dosage in adults and children is up to 1 mg. daily. Resistant causes may required larger doses. In the presence of alcoholism, hemolytic anemia, anticonvulsant therapy, or chronic infection, the maintenance level may need to be increased.

GYNECON[®] VAGINAL TABLET (Continental Pharm. Co. Ltd.)

Contain :-	Nystatin	100,000	IU
	Di-iodohydroxyquin	100	mg.
	Benzalkonium chloride	7	mg.

Indication :- Treatment of Candida, Trichomonas, non-specific vaginitis.

Dosage :- Insert 1 tablet, 1-2 times daily for 1 week or as required.

HEMINAL[®] TABLET (Asian TJD Enterprise (Thailand) Ltd.)

Contain :-	Ferrous fumarate	76.0	mg.
	Cupric sulfate	2.5	mg.
	Cobalt sulphate	0.6	mg.
	Folic acid	1.0	mg.
	Vitamin B12	15.0	mcg.
	Vitamin C	20.0	mg.

Indication :- Iron deficiency, haemorrhagic, toxic, aplastic and pernicious anemias.

Dosage :- Adults; usually 1-2 tablets, tid pc.

Child; 1 tablet, bid or tid pc.

MYCOSTATIN[®] VAGINAL TABLET (Squibb Far East Ltd.)

Contain :- 100,000 units nystatin vaginal tablet USP.

Action :- Nystatin is an antifungal antibiotic which is both fungistatic and fungicidal in vitro against a wide variety of yeasts and yeast-like fungi.

Indication and usage :- Effect for the local treatment of vulvo-vaginal candidiasis (moniliasis).

Usage in pregnancy :- No adverse effects or complications have been attributed to nystatin in infants born to women treated with nystatin vaginal tablets.

Adverse reaction :- Nystatin is virtually nontoxic and nonsensitizing and is well tolerated by all age groups, even on prolonged administration. Rarely, irritation or sensitization may occur.

Dosage and administration :- The usual dosage is 1 tablet daily for 2 weeks. Even though symptomatic relief may occur within a few days, treatment should be continued for the full course. It is important that therapy be continued during menstruation.

Storage :- Store in refrigerator below 15°C (59°F).

NATABEC[®] KAPSEALS[®] (Diethelm & Co. Ltd.)

Contain :- Vitamin A (acetate)	4,000 units
Vitamin D (ergocalciferol)	400 "
Vitamin C (ascorbic acid)	50 mg.
Vitamin B1 (thiamine mononitrate)	3 mg.
Vitamin B2 (riboflavine)	2 mg.
Vitamin B6 (pyridoxine hydrochloride)	3 mg.
Vitamin B12 (cyanocobalamine)	5 mcg.
Nicotinamide (niacinamide)	10 mg.
Calcium carbonate	600 mg.
Ferrous sulphate	150 mg.

Action and uses :- A vitamin and mineral formular for use during pregnancy and lactation.

Administration and dosage :- One kapseal daily, or as directed by the physician.

NATALIN[®] TABLET (Bristol-Myer (Thailand) Ltd.)

Contain :- Vitamin...

Vitamin A	8,000 IU
Vitamin D	400 "
Vitamin E	30 "

Vitamin C	90.0 mg.
Folic acid	0.8 mg.
Thiamine (vitamin B1)	1.7 mg.
Riboflavin (vitamin B2)	2.0 mg.
Niacin	20.0 mg.
Vitamin B6	4.0 mg.
Vitamin B12	8.0 mcg.
:- Mineral ...	
Calcium	200.0 mg.
Iodine	150.0 mcg.
Iron	45.0 mg.
Magnesium	100.0 mg.

Action and uses :- Diet supplementation during pregnancy or lactation.

Administration and dosage :- 1 tablet a day or as indicated.

PARACETAMOL TABLET

Contain :- Acetaminophen USP. 325 mg. per tablet.

Indication :- Capital in analgesic-antipyretic. It provides analgesia in a number of painful conditions. Paracetamol is also indicated as an analgesic-antipyretic in disease accompanied by discomfort and fever, such as common cold and other viral infection.

Dosages :- Adults; 1-2 tablets, 3 or 4 times daily.

Children; 6-12 years; $\frac{1}{2}$ to 1 tablet, 3 or 4 times daily.

PETHIDINE HYDROCHLORIDE INJECTION

Contain :- Meperidine hydrochloride USP. 50 mg/ml.

Action :- Meperidine hydrochloride is a narcotic analgesic with multiple action qualitatively similar to those of morphine. The principle actions of therapeutic value are analgesia and sedation.

Indications and usage :-

1. For the relief of moderate to severe pain (parenteral and oral forms).
2. For preoperative medication (parenteral form).
3. For support of anesthesia (parenteral form).
4. For obstetrical analgesia (parenteral form).

Usage in pregnancy and lactation :- Meperidine should not be used in pregnant women prior to the labour period unless in the judgment of the physician the potential benefits outweigh the possible hazards, because safe use in pregnancy prior to labour has not been established relative to possible adverse effects on fetal development.

When used as an obstetrical analgesic, meperidine crosses the placental barrier and can produce depression of respiratory and psychophysiologic functions in the newborn. Meperidine appears in the milk of nursing mother receiving drug.

Dosage and administration :-

For relief of pain; Dosage should be adjusted according to the severity of pain and the response of the patient.

Meperidine is less effective orally than on parenteral administration.

For preoperative medication;

- Adults; the usual dosage is 50 to 100 mg. intramuscularly or subcutaneously, 30 to 90 minutes before the beginning of anesthesia.
- Children; the usual dosage is 0.5 to 1 mg/lb. intramuscularly or subcutaneously up to the adult dose, 30 to 90 minutes before the beginning of anesthesia.

For support of anesthesia :- Repeats slow intravenous injections of fractional doses (e.g. 10 mg. per ml.) or continuous intravenous infusion of a more dilute solution (e.g. 1 mg. per ml.) should be used.

For obstetrical analgesia :- The usual dosage is 50 to 100 mg. intramuscularly or subcutaneously when pain becomes regular, and may be repeated at 1-to 3-hours intervals.

PHENERGAN[®] INJECTION (May & Baker Ltd.)

Contain :- Promethazine hydrochloride 10 mg. per 2 ml.

Action :- Promethazine hydrochloride a phenothiazine derivative, possess antihistaminic, sedative, ~~anti~~ motion-sickness,

antiemetic, and anticholinergic effects. The duration of action is generally from four to six hours. The major side reaction of this drug is sedation.

Indication :- The injectable form is indicated for the following conditions

1. Amelioration of allergic reactions to blood or plasma.
2. In anaphylaxis as an adjunct to epinephrine and other standard measures after the acute symptoms have been controlled.
3. For other uncomplicated allergic conditions of the immediate type when oral therapy is impossible or contraindicated.
4. Active treatment of motion sickness.
5. Preoperative, postoperative, and obstetric (during labour) sedation.
6. Prevention and control of nausea and vomiting associated with certain types of anesthesia and surgery.
7. As an adjunct to analgesics for the control of postoperative pain.
8. For sedation and relief of apprehension and to produce light sleep from which the patient can be easily aroused.
9. Intravenously in special surgical situations, such as repeated bronchoscopy, ophthalmic surgery, and poor-risk patients, with reduced amounts of meperidine or other narcotic analgesic as an adjunct to anesthesia and analgesia.

Usage in pregnancy :- The safe use of promethazine has not been established with respect to the possible adverse effects upon fetal development. Therefore, the need for the use of this drug during pregnancy should be weighed against the possible but unknown hazards to the development fetus.

Dosage and administration :- The preferred parenteral route of administration for promethazine is by deep intramuscular injection. When used intravenously, it should be given in concentration no greater than 25 mg./ml. at a rate not to exceed 25 mg. per minute, it is preferable to inject through the tubing of an intravenous infusion set that is known to be functioning satisfactorily.

In obstetric :- Phenergan[®] in doses of 50 mg. will provide sedation and relieve apprehension in the early stages of labour. When labour is definitely established, 25 to 75 mg. (average dose, 50 mg.) promethazine may be given intramuscularly or intravenously with an appropriately reduced dose of any desired narcotic. If necessary, phenergan with a reduced dose of analgesic may be repeated once or twice at four-hour intervals in the course of a normal labour. A maximum total dose of 100 mg. of phenergan may be administered during a 24-hour period to patients in labour.

PRUTAB[®] TABLET (Unichem Laboratories Ltd.)

Contain :- Acetophenolisatin BPC 7.5 mg./tab.

Indication :- As a laxative.

Dosage :- 1-2 tablets or as required for the adult.

ROBITUSSIN[®] SYRUP (International Pharm. Ltd.)

Contain :- Glyceryl guaiacolate 10 mg. per 5 ml.

Indication :- For cough associated with common cold, bronchitis, laryngitis, tracheitis, pharyngitis, pertussis, influenza, and measles.

Dosage :- Adults; 1 teaspoonful every 3-4 hours,

Children; 6-12 years.. $\frac{1}{2}$ adult's dose,

3-4 years.. $\frac{1}{4}$ adult's dose.

SATIBON[®] TABLET (Thai Japan Lab. Co. Ltd.)

Contain :- Vitamin A	6,000	USP units.
Vitamin D	400	USP units.
Vitamin B1	3	mg.
Vitamin B2	3	mg.
Vitamin B6	3	mg.
Vitamin B12	4	mcg.
Vitamin E	5	mg.
Vitamin C	50	mg.

Folic acid	0.5 mg.
Biotin	3.0 mcg.
Ferrous gluconate	54.0 mg.
Calcium lactate	220.0 mg.
Niacinamide	10.0 mg.

Indication :- Prenatal nutrition supplement and dietary supplement increased nutritional demands of gravida and of fetus during pregnancy, lactation, and breast fed infant.

Dosage :- 1-3 daily, after meals as dietary supplement. For pregnant and lactation, 1 tablet daily or as directed by physicians.

SULTRIN[®] VAGINAL TABLET (Johnson & Johnson (Thailand) Ltd.)

Contain :- Sulfathiazole	171.0 mg.
Sulfacetamide	143.0 mg.
N-benzoyl-sulfanilamide	185.0 mg.
Urea	13.0 mg.

Indication :- Post-operative care of vagina and cervix and related gynecological condition; non-specific vaginitis; secondary bacterial invaders in trichomoniasis; ulcerative vaginitis.

Contraindication :- Sulfonamide sensitivity and kidney disease.

Dosage :- 1 tablet intravaginally before retiring and in the morning for 10 days.

VITAPLEX[®] TABLET (Dumex Ltd.)

Contain :- Vitamin A	2,000	units.
Vitamin B1	1.0	mg.
Vitamin B2	1.2	mg.
Vitamin B6	0.08	mg.
Vitamin B12	1.0	mcg.
Vitamin C	30.0	mg.
Vitamin D	200.0	units.
Vitamin E	0.2	mg.
Vitamin K	0.067	mg.
Calcium pantothenate	2.0	mg.
Niacinamide	10.0	mg.

Dosage :- 2-3 tablets daily or more, as required.

ศูนย์วิทยทรัพยากร
จุฬาลงกรณ์มหาวิทยาลัย

VITA

Capt. Sirima Ruangrittinont was born on January 31st, 1952, in Nakhornrajsima Province, Thailand. She obtained her degree in Bachelor of Science in Pharmacy, Chulalongkorn University, in the year 1974.

She is now working as a hospital pharmacist of In-patient Section, Pharmacy Division of Pramongkutkiao Hospital, Bangkok, Thailand.



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