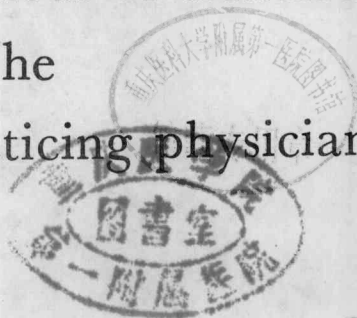


CURRENT  
THERAPY  
1970



# CURRENT THERAPY 1970

latest approved  
methods of treatment  
for the  
practicing physician



一九七一年八月廿五日

EDITED BY HOWARD F. CONN, M.D.

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# CURRENT THERAPY

1970

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1970-1971

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Current Therapy

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# NORMAL LABORATORY VALUES

Prepared by REX B. CONN, M.D.

## NORMAL HEMATOLOGIC VALUES

Acid hemolysis test (Ham)	No hemolysis
Alkaline phosphatase, leukocyte	Total score 14-100
Bleeding time: Ivy	Less than 5 min.
Duke	1-5 min.
Carboxyhemoglobin	Up to 5% of total
Cell counts	
Erythrocytes: Males	4.6-6.2 million/cu.mm.
Females	4.2-5.4 million/cu.mm.
Children (varies with age)	4.5-5.1 million/cu.mm.
Leukocytes	5000-10,000/cu.mm.
Myelocytes	0 %
Juvenile	0/cu.mm.
neutrophils	3-5 %
Segmented	
neutrophils	54-62 %
Lymphocytes	25-33 %
Monocytes	3-7 %
Eosinophils	1-3 %
Basophils	0-0.75 %
(Infants and children have greater relative numbers of lymphocytes and monocytes.)	
Platelets	150,000-350,000/cu.mm.
Reticulocytes	25,000-75,000/cu.mm.
	0.5-1.5% of erythrocytes
Clot retraction, qualitative	Begins in 30-60 min.
	Complete in 24 hrs.
Coagulation time (Lee-White)	5-15 min. (glass tubes)
	19-60 min. (siliconized tubes)
Cold hemolysin test (Donath-Landsteiner)	No hemolysis
Corpuscular values of erythrocytes (Values are for adults; in children, values vary with age.)	
M.C.H. (mean corpuscular hemoglobin)	27-31 picogm.
M.C.V. (mean corpuscular volume)	82-92 cu. micra
M.C.H.C. (mean corpuscular hemoglobin concentration)	32-36%
Fibrinogen	200-400 mg./100 ml.
Fibrinolysis	0
Hematocrit: Males	40-54 ml./100 ml.
Females	37-47 ml./100 ml.
Newborn	49-54 ml./100 ml.
Children (varies with age)	35.0-49.0 ml./100 ml.
Hemoglobin: Males	14.0-18.0 grams/100 ml.
Females	12.0-16.0 grams/100 ml.
Newborn	16.5-19.5 grams/100 ml.
Children (varies with age)	11.2-16.5 grams/100 ml.
Hemoglobin, fetal	Less than 1% of total
Hemoglobin A <sub>2</sub>	1.5-3.0% of total
Hemoglobin, plasma	0-5.0 mg./100 ml.
Methemoglobin	0.03-0.13 grams/100 ml.
Osmotic fragility of erythrocytes	Begins in 0.45-0.39% NaCl
	Complete in 0.33-0.30% NaCl
Partial thromboplastin time	60-70 sec.
Kaolin activated	35-45 sec.
Prothrombin consumption	Over 80% consumed in 1 hr.
Prothrombin content	100% (calculated from prothrombin time)
Prothrombin time (one stage)	12.0-14.0 sec.
Sedimentation rate	
Wintrobe: Males	0-5 mm. in 1 hr.
Females	0-15 mm. in 1 hr.
Westergren: Males	0-15 mm. in 1 hr.
Females	0-20 mm. in 1 hr.
(May be slightly higher in children and during pregnancy.)	
Thromboplastin generation test	Compared to normal control
Tourniquet test	Ten or fewer petechiae in a 2.5 cm. circle after 5 min. with cuff at 100 mm. Hg

## NORMAL HEMATOLOGIC VALUES (Continued)

Bone marrow, differential cell count	Range	Average
Myeloblasts	0.3- 5.0%	2.0%
Promyelocytes	1.0- 8.0%	5.0%
Myelocytes: Neutrophilic	5.0-19.0%	12.0%
Eosinophilic	0.5- 3.0%	1.5%
Basophilic	0.0- 0.5%	0.3%
Metamyelocytes ("juvenile" forms)	13.0-32.0%	22.0%
Polymorphonuclear neutrophils	7.0-30.0%	20.0%
Polymorphonuclear eosinophils	0.5- 4.0%	2.0%
Polymorphonuclear basophils	0.0- 0.7%	0.2%
Lymphocytes	3.0-17.0%	10.0%
Plasma cells	0.0- 2.0%	0.4%
Monocytes	0.5- 5.0%	2.0%
Reticulum cells	0.1- 2.0%	0.2%
Megakaryocytes	0.03- 3.0%	0.4%
Pronormoblasts	1.0- 8.0%	4.0%
Normoblasts	7.0-32.0%	18.0%

## NORMAL BLOOD, PLASMA, AND SERUM VALUES

For some procedures the normal values may vary depending upon the methods used.

Acetone, serum: Qualitative	Negative
Quantitative	0.3-2.0 mg./100 ml
Aldolase, serum	Male: Less than 33 units
	Female: Less than 19 units
Amino acid nitrogen, serum	4-6 mg./100 ml.
Ammonia nitrogen, blood	75-196 mcg./100 ml.
plasma	56-122 mcg./100 ml.
Amylase, serum	80-160 Somogyi units/100 ml.
Ascorbic acid	See Vitamin C.
Base, total, serum	145-160 mEq./liter
Bilirubin, serum: Direct	0.1-0.4 mg./100 ml.
Indirect	0.2-0.7 mg./100 ml.
	(Total minus direct)
Total	0.3-1.1 mg./100 ml.
Calcium, serum	4.5-5.5 mEq./liter
	(9.0-11.0 mg./100 ml.)
	(Slightly higher in children.)
	(Varies with protein concentration.)
Calcium, serum, ionized	2.1-2.6 mEq./liter
	(4.25-5.25 mg./100 ml.)
Carbon dioxide content, serum	24-30 mEq./liter
Carbon dioxide tension, blood	Infants: 20-28 mEq./liter
(pCO <sub>2</sub> )	35-45 mm. Hg
Carotene, serum	50-300 mcg./100 ml.
Ceruloplasmin, serum	23-44 mg./100 ml.
Chloride, serum	100-106 mEq./liter
	(355-376 mg./100 ml. as Cl)
	(585-620 mg./100 ml. as NaCl)
Cholesterol, serum: Total	150-250 mg./100 ml.
Esters	68-76% of total cholesterol
Cholinesterase: serum	0.5-1.3 pH units
RBC	0.5-1.0 pH units
Copper, serum: Male	70-140 mcg./100 ml.
Female	85-155 mcg./100 ml.
Creatine, serum	0.2-0.8 mg./100 ml.
Creatine phosphokinase, serum	Varies with method used.
Creatinine, serum	0.7-1.5 mg./100 ml.
Cryoglobulins, serum	0
Fibrinogen, plasma	200-400 mg./100 ml.
Folic acid, serum	7-16 nanogm./ml.
Glucose (fasting)	
Blood, true	60-100 mg./100 ml.
Folin	80-120 mg./100 ml.
Plasma, true	70-115 mg./100 ml.
Haptoglobins, serum	40-170 mg./100 ml.
17-Hydroxycorticosteroids	8-18 mcg./100 ml.
Icterus index, serum	4-7
Immunoglobulins, serum	
IgG	800-1500 mg./100 ml.
IgA	50-200 mg./100 ml.
IgM	40-120 mg./100 ml.
Iodine, butanol extractable, serum	3.2-6.4 mcg./100 ml.
Iodine, protein bound, serum	3.5-8.0 mcg./100 ml.
	(May be slightly higher in infants.)
Iron, serum	75-175 mcg./100 ml.



## OF CLINICAL IMPORTANCE

The Johns Hopkins School of Medicine, Baltimore

### NORMAL BLOOD, PLASMA, AND SERUM VALUES (Continued)

Iron binding capacity, total, serum	250-410 mcg./100 ml.
% saturation	20-55%
17-Ketosteroids, plasma	25-125 mcg./100 ml.
Lactic acid, blood	6-16 mg./100 ml.
Lactic dehydrogenase, serum	90-200 milliunits/ml. (I.U.)
Lipase, serum	Less than 1.5 units (ml. of N/20 NaOH)
Lipids, total, serum	450-850 mg./100 ml.
Lipid fraction, serum	
Cholesterol	150-250 mg./100 ml.
Cholesterol esters	68-76% of total cholesterol
Phospholipids	6-12 mg./100 ml. as lipid phosphorus
Total fatty acids	190-420 mg./100 ml.
Triglycerides	0-150 mg./100 ml.
Magnesium, serum	1.5-2.5 mEq./liter (1.8-3.0 mg./100 ml.)
Nitrogen, nonprotein, serum	15-35 mg./100 ml.
Osmolality, serum	285-295 mOsm./liter
Oxygen, blood	
Capacity	16-24 vol. % (varies with Hb)
Content	Arterial 15-23 vol. % Venous 10-16 vol. %
Saturation	Arterial 94-100% of capacity Venous 60-85% of capacity
Tension (pO <sub>2</sub> )	Arterial 75-100 mm. Hg pH, arterial, plasma 7.35-7.45
Phenylalanine, serum	Less than 3 mg./100 ml.
Phosphatase, acid, serum	1.0-5.0 units (King-Armstrong) 0.5-2.0 units (Bodansky) 0.5-2.0 units (Cutman) 0.0-1.1 units (Shinowara) 0.1-0.63 unit (Bessey-Lowry) 5.0-13.0 units (King-Armstrong) 2.0-4.5 units (Bodansky) 3.0-10.0 units (Cutman) 2.2-8.6 units (Shinowara) 0.8-2.3 units (Bessey-Lowry) 30-85 milliunits/ml. (I.U.) (Values are higher in children)
Phosphatase, alkaline, serum	3.0-4.5 mg./100 ml. (Children: 4.0-7.0 mg./100 ml.)
Phosphate, inorganic, serum	3.5-5.0 mEq./liter (14-20 mg./100 ml. as K)
Potassium, serum	3.5-5.0 mEq./liter
Proteins, serum	
Total	6.0-8.0 grams/100 ml.
Albumin	3.5-5.5 grams/100 ml.
Globulin	2.5-3.5 grams/100 ml.
Electrophoresis	
Albumin	3.5-5.5 grams/100 ml. 52-68% of total
Globulin	
Alpha <sub>1</sub>	0.2-0.4 gram/100 ml. 2-5% of total
Alpha <sub>2</sub>	0.5-0.9 gram/100 ml. 7-14% of total
Beta	0.6-1.1 grams/100 ml. 9-15% of total
Gamma	0.7-1.7 grams/100 ml. 11-21% of total
Pyruvic acid, plasma	1.0-2.0 mg./100 ml.
Serotonin, platelet suspension serum	0.1-0.3 mcg./ml. blood
Sodium, serum	0.10-0.32 mcg./ml. 136-145 mEq./liter (313-334 mg./100 ml. as Na) 0.8-1.2 mg./100 ml. (as S)
Sulfates, inorganic, serum	2.9-6.4 mcg./100 ml.
Thyroxine iodine (T <sub>4</sub> ), serum	5-40 units/ml.
Transaminase, serum: SGOT	5-50 milliunits/ml. (I.U.)
SGPT	5-35 units/ml.
Urea, blood	21-43 mg./100 ml.
plasma or serum	24-49 mg./100 ml.
Urea nitrogen, blood (BUN)	10-20 mg./100 ml.
plasma or serum	11-23 mg./100 ml.
Uric acid, serum: Male	2.5-7.0 mg./100 ml.
Female	1.5-6.0 mg./100 ml.
Vitamin A, serum	20-80 mcg./100 ml.
Vitamin B <sub>12</sub> , serum	200-800 picogram/ml.
Vitamin C, blood	0.4-1.5 mg./100 ml.

### NORMAL URINE VALUES

Acetone and acetoacetate	0
Addis count: Erythrocytes	0-130,000/24 hrs.
Leukocytes	0-650,000/24 hrs.
Casts (hyaline)	0-2000/24 hrs.
Alcapton bodies	Negative
Aldosterone	3-20 mcg./24 hrs.
Amino acid nitrogen	64-199 mg./24 hrs. (Not over 1.5% of total nitrogen.)
Ammonia nitrogen	20-70 mEq./24 hrs.
Amylase	35-260 Somogyi units/hr.
Bence-Jones protein	Negative
Bilirubin (bile)	Negative
Calcium: Low Ca diet (Bauer-Aub)	Less than 150 mg./24 hrs.
Usual diet	Less than 250 mg./24 hrs.
Catecholamines: Epinephrine	Less than 10 mcg./24 hrs.
Norepinephrine	Less than 100 mcg./24 hrs.
Chloride	110-250 mEq./24 hrs. (Varies with intake.)
Chorionic gonadotropin	0
Copper	0-30 mcg./24 hrs.
Creatine: Male	0-40 mg./24 hrs.
Female	0-100 mg./24 hrs. (Higher in children and during pregnancy.)
Creatinine	15-25 mg./kg. of body weight/24 hrs.
Cystine or cysteine, qualitative	Negative
Delta aminolevulinic acid	1.3-7.0 mg./24 hrs.
Estrogens: Male	4-25 mcg./24 hrs.
Female	4-60 mcg./24 hrs. (Markedly increased during pregnancy.)
Glucose (reducing substances)	Less than 250 mg./24 hrs.
Gonadotropins, pituitary	5-10 rat units/24 hrs. 10-50 mouse units/24 hrs. (Increased after menopause.)
Hemoglobin and myoglobin	Negative
Homogentisic acid, qualitative	Negative
17-Hydroxycorticoids: Male	5-15 mg./24 hrs.
Female	4-10 mg./24 hrs. (Varies with method used.)
5-Hydroxyindole-acetic acid (5 HIAA): Qualitative	Negative
Quantitative	Less than 16 mg./24 hrs.
17-Ketosteroids: Male	6-18 mg./24 hrs.
Female	4-13 mg./24 hrs.
Osmolality	38-1400 mOsm./kg. water
pH	4.6-8.0, average 6.0 (Depends on diet.)
Phenylpyruvic acid, qualitative	Negative
Phosphorus	0.9-1.3 gm./24 hrs. (Varies with intake.)
Porphobilinogen: Qualitative	Negative
Quantitative	0-0.2 mg./100 ml. Less than 2.0 mg./24 hrs.
Porphyryns: Coproporphyrin	50-250 mcg./24 hrs.
Uroporphyrin	10-30 mcg./24 hrs.
Potassium	25-100 mEq./24 hrs. (Varies with intake.)
Pregnanetriol	Less than 2.5 mg./24 hrs. in adults
Protein: Qualitative	0
Quantitative	10-150 mg./24 hrs.
Sodium	130-260 mEq./24 hrs. (Varies with intake.)
Solids, total	30-70 grams/liter, average 50 grams/liter (To estimate total solids per liter, multiply last two figures of specific gravity by 2.66, Long's coefficient.)
Specific gravity	1.003-1.030
Sugar	0
Titrateable acidity	20-40 mEq./24 hrs.
Urobilinogen	Up to 1.0 Ehrlich unit/2 hrs. (1-3 p.m.)
Vanillylmandelic acid (VMA)	0-4.0 mg./24 hrs. 1-8 mg./24 hrs.

THESE TABLES ARE CONTINUED ON THE END SHEETS AT THE BACK OF THE BOOK

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## NOTICE

Extraordinary efforts have been made by the authors, the editors, and the publisher of this book to insure that dosage recommendations are precise and in agreement with standards officially accepted at the time of publication.

It does happen, however, that dosage schedules are changed from time to time in the light of accumulating clinical experience and continuing laboratory studies. This is most likely to occur in the case of recently introduced products.

It is urged, therefore, that you check the manufacturer's recommendations for dosage, *especially if the drug to be administered or prescribed is one that you use only infrequently or have not used for some time.*

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# Preface

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This edition of *Current Therapy*, the twenty-second of an annual series, continues the original purpose of bringing to the physician authoritative, current methods of therapy in a convenient form for reference. The articles have been written specifically to give concise, accurate and sufficiently detailed information unhampered by material not directly related to the therapy proposed. Careful planning is constantly in effect to ensure that the book continues to carry out its intended purpose of providing a quick, adequate reference volume. The space limitation of a single volume prohibits discussions of diagnosis if the aim of the book is to be maintained, and the authors have assumed that a correct diagnosis has been made before the book is consulted. (As a matter of fact, a companion volume, *Current Diagnosis*, has been developed and is available to help meet this need.)

This policy has met with enthusiastic approval in the preceding editions, and it is gratifying to learn that *Current Therapy* has been of great help to the practicing physician in the care of his patients.

The term "method" refers to the regimen in current use by the author-clinician; it does not necessarily imply that the named author was the originator of the regimen. Present-day treatment is by and large a summation of the work of many clinicians over the years, and no attempt has been made to confine coverage to recent advances only. Traditional therapy, if an author considers it still to be the best available, is included along with modern advances; the result is a well-balanced treatise on the management of each disease.

It will be noted that obsolete procedures are not mentioned and that methods or agents not fully tested are so designated. Certain procedures or drugs currently under investigation may not be advised for general use until it can be stated definitely that they have been accepted as standards in treatment.

This is a new edition rather than a revision of the old. Many topics have been rotated among authors from several countries, and many of the authors of this edition are contributing to *Current Therapy* for the first time. A few articles from the previous edition dealing with disease entities in which there has been little or no change in therapy have been revised or approved by their authors for this edition. In keeping with variations in the importance of certain diseases, and with the world-wide distribution of the book, certain deletions and additions of topics have been made.

The effectiveness and success of *Current Therapy* have been due in greatest measure to the Contributors and Consultants, to whom the Editor is deeply grateful. This book would not have been possible without their wholehearted cooperation. The Editor also wishes to express his appreciation to the staff of the W. B. Saunders Company for their considerate and thoughtful help and guidance.

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