

## CLINICAL LABORATORY TESTS – REFERENCE VALUES

This table lists reference ranges (expressed in both SI units and traditional units) for the most common laboratory tests and is intended for interpretation of the results as they are provided in the examinations. Most of the values apply to adults and where they differ for children it will be indicated. Many important laboratory reference values are not listed here, because of the less frequent use of these tests. Such values are inserted parenthetically following the result recorded in the examination question.

Tests	SI Units	Traditional Units
Activated partial thromboplastin time (aPTT)	25-40 sec	25-40 sec
Albumin (serum)	35-50 g/L	3.5-5.0 g/dL
Amylase (serum)	25-125 IU/L	25-125 U/L
Bicarbonate (HCO <sub>3</sub> ) (serum)	23-29 mmol/L	23-29 mEq/L
Bilirubin (serum)* Neonates (conjugated)	0-10 µmol/L	0-0.6 mg/dL
(total)	1.7-180 µmol/L	1.0-10.5 mg/dL
Adults (conjugated)	0-5 µmol/L	0-0.3 mg/dL
(total)	3-22 µmol/L	0.2-1.3 mg/dL
Bleeding time (Dvy)	< 5 min	< 5 min
Calcium (serum)**		
Total	2.10-2.50 mmol/L	8.4-10.0 mg/dL
Ionized	1.15-1.35 mmol/L	4.6-5.1 mg/dL
Calcium (urine)	< 6.2 mmol/d	< 250 mg/24h
Carcinoembryonic antigen (CEA) (serum)	< 3.0 µg/L	< 3.0 ng/ml
CO <sub>2</sub> (total)**	22-29 mmol/L	22-29 mEq/L
Chloride (serum)	96-106 mmol/L	96-106 mEq/L
Chloride (urine) Infant	2-10 mmol/d	2-10 mEq/24h
Child	14-50 mmol/d	14-50 mEq/24h
Adults	110-250 mmol/d	110-250 mEq/24h
Cholesterol (serum)**	< 5.2 mmol/L	< 200 mg/dL
Cortisol (plasma) 8 AM	170-635 nmol/L	6-23 µg/dL
4 PM	82-413 nmol/L	3-15 µg/dL
Creatinine (serum)	50-110 µmol/L	0.6-1.2 mg/dL
Creatinine (urine) Males	8.8-17.6 mmol/d	1.0-2.0 g/24h
Females	7.0-15.8 mmol/d	0.8-1.8 g/24h
Creatine kinase (CK, CPK) - Males (race dependent)	20-215 IU/L	20-215 U/L
Females (race dependent)	20-160 IU/L	20-160 U/L
Erythrocytes (RBCs) - Children**	4.5-5.1 x 10 <sup>12</sup> /L	4.5-5.1 million/mm <sup>3</sup>
Males	4.6-6.2 x 10 <sup>12</sup> /L	4.6-6.2 million/mm <sup>3</sup>
Females	4.2-5.4 x 10 <sup>12</sup> /L	4.2-5.4 million/mm <sup>3</sup>
Ferritin (serum)	20-200 µg/L	20-200 ng/ml
Follicle-stimulating hormone (FSH) (plasma)		
Males	1-10 IU/L	1-10 mIU/ml
Females, premenopausal	20-80 IU/L	20-80 mIU/ml
Females, postmenopausal	40-250 IU/L	40-250 mIU/ml
Glucose (fasting) (plasma or serum)	3.9-6.1 mmol/L	70-110 mg/dL
Growth hormone (hGH) (serum, adult) fasting	0-10 µg/L	0-10 ng/ml
Hematocrit - Newborn	0.49-0.54	49-54%
Children**	0.35-0.49	35-49%
Males	0.40-0.54	40-54%
Females	0.37-0.47	37-47%
Hemoglobin (Hb) - Newborn	163-193 g/L	16.3-19.3 g/dL
Children**	112-165 g/L	11.2-16.5 g/dL
Males	140-180 g/L	14.0-18.0 g/dL
Females	120-160 g/L	12.0-16.0 g/dL
High density lipoproteins (HDL) (recommended range)	> 0.91 mmol/L	> 35 mg/dL
INR	0.9-1.1	0.9-1.1
Iron (serum) - Males	13-31 µmol/L	75-175 µg/dL
Females	5-29 µmol/L	28-162 µg/dL
Iron binding capacity (serum) (TIBC)	45-73 µmol/L	250-410 µg/dL
Lactate dehydrogenase (LDH) (serum) - Adult	45-90 IU/L	45-90 U/L
Child	60-170 IU/L	60-170 U/L
> 60 years old	55-100 IU/L	55-100 U/L

\*Test values are method dependent

\*\*Test values vary with age

\*\*\*Test values are diet dependent

.../over

# Clinical Laboratory Tests Reference Values

**S Marginson**



## **Clinical Laboratory Tests Reference Values:**

Clinical Laboratory Medicine Kenneth D. McClatchey, 2002 This thoroughly updated Second Edition of Clinical Laboratory Medicine provides the most complete current and clinically oriented information in the field The text features over 70 chapters seven new to this edition including medical laboratory ethics point of care testing bone marrow transplantation and specimen testing providing comprehensive coverage of contemporary laboratory medicine Sections on molecular diagnostics cytogenetics and laboratory management plus the emphasis on interpretation and clinical significance of laboratory tests why a test or series of tests is being done and what the results mean for the patient make this a valuable resource for practicing pathologists residents fellows and laboratorians Includes over 800 illustrations 353 in full color and 270 new to this edition Includes a Self Assessment and Review book

*Tietz Textbook of Clinical Chemistry and Molecular Diagnostics - E-Book* Nader Rifai, 2017-01-16 The Tietz Textbook of Clinical Chemistry and Molecular Diagnostics 6th Edition provides the most current and authoritative guidance on selecting performing and evaluating the results of new and established laboratory tests This classic clinical chemistry reference offers encyclopedic coverage detailing everything you need to know including analytical criteria for the medical usefulness of laboratory tests variables that affect tests and results laboratory medicine applications of statistical methods and most importantly clinical utility and interpretation of laboratory tests It is THE definitive reference in clinical chemistry and molecular diagnostics now fully searchable and with quarterly content updates podcasts clinical cases animations and extended content online through Expert Consult Analytical criteria focus on the medical usefulness of laboratory procedures Reference ranges show new approaches for establishing these ranges and provide the latest information on this topic Lab management and costs gives students and chemists the practical information they need to assess costs allowing them to do their job more efficiently and effectively Statistical methods coverage provides you with information critical to the practice of clinical chemistry Internationally recognized chapter authors are considered among the best in their field Two color design highlights important features illustrations and content to help you find information easier and faster NEW Internationally recognized chapter authors are considered among the best in their field NEW Expert Consult features fully searchable text quarterly content updates clinical case studies animations podcasts atlases biochemical calculations multiple choice questions links to Medline an image collection and audio interviews You will now enjoy an online version making utility of this book even greater UPDATED Expanded Molecular Diagnostics section with 12 chapters that focus on emerging issues and techniques in the rapidly evolving and important field of molecular diagnostics and genetics ensures this text is on the cutting edge and of the most value NEW Comprehensive list of Reference Intervals for children and adults with graphic displays developed using contemporary instrumentation NEW Standard and international units of measure make this text appropriate for any user anywhere in the world NEW 22 new chapters that focus on applications of mass spectrometry hematology transfusion medicine microbiology biobanking

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**Interpretation** Dr Gabriel J Connor,2020-10-19 Can you decipher the myriad values that you see when the morning lab results come back Is this value high or low Is it a critical value Which ones do you need to be sure get addressed first Is your patient at risk if you wait for the physician Getting familiar with and interpreting laboratory values can be intimidating There s always the fear of messing things up and not being able to meet the patients health needs But guess what Familiarizing and interpreting laboratory values don t always have to feel that way With the right tips you ll be able to overcome those fears and complete your tasks easily But First A Warning Before we go further let me make something abundantly clear This book does not contain a magic wand that will bring you instant knowledge without having to do any work This book provides in depth knowledge of the full spectrum of lab tests used today But this only works for those who are willing to apply take notes read and re read the chapters So with that said let me tell you Take Lab Values from random numbers and turning them into functional concepts that are actually fun Look beyond the numbers and finally understand what the values mean Learn an intuitive multi dimensional approach to assessing multiple lab tests and integrating them into your clinical practice This is not hype this is what my audience commonly report Clinical Decision Levels for Lab Tests Bernard E. Statland,1987

*Kinn's The Clinical Medical Assistant* Deborah B. Proctor,Brigitte Niedzwiecki,Julie Pepper,Marti Garrels,Helen Mills,2016-05-10 Clinical Medical Assisting begins with Kinn Elsevier s Kinn s The Clinical Medical Assistant 13th Edition provides you with the real world clinical skills that are essential to working in the modern medical office An applied learning approach to the MA curriculum is threaded throughout each chapter to help you further develop the tactile and critical thinking skills necessary to assist with medications diagnostic procedures and surgeries Paired with our adaptive solutions real world simulations EHR documentation and HESI remediation and assessment you will learn the leading skills of modern clinical medical assisting in the classroom Applied approach to learning helps you use what you ve learned in the clinical setting Clinical procedures integrated into the TOC provide you with a quick reference Detailed learning objectives and vocabulary with definitions highlight what s important in each chapter Step by step procedures explain complex conditions and abstract concepts Rationales for each procedure clarify the need for each step and explains why it s being performed

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**The Scandinavian Journal of Clinical & Laboratory Investigation** ,1951 Clinical Chemistry Lawrence A. Kaplan,Amadeo J. Pesce,Steven C. Kazmierczak,2003 This comprehensive up to date readable text acts as a complete clinical chemistry course and professional reference providing detailed specific information on the principles of clinical chemistry in laboratory diagnosis as well as the pathophysiologic changes that occur in disease and affect testing outcomes Explanations of Laboratory Techniques Part 1 lead the reader through various necessary laboratory techniques and practices Chapters on Pathophysiology Part 2 provide descriptions of how specific diseases affect the human body A companion CD ROM packaged with the book features Methods of Analysis a comprehensive Urinalysis Manual and an interactive Study Guide Workbook to reinforce concepts The book s clear writing and comprehensive coverage make it an ideal resource for both students and practitioners Instructor resources are available to qualified adopters contact your sales representative for more information

**Choosing Effective Laboratory Tests** Carl E. Speicher,Jack W. Smith,1983 "Code of Massachusetts regulations, 2001" ,2001 Archival snapshot of entire looseleaf Code of Massachusetts Regulations held by the Social Law Library of Massachusetts as of January 2020 "Code of Massachusetts regulations, 1996" ,1996 Archival snapshot of entire looseleaf Code of Massachusetts Regulations held by the Social Law Library of Massachusetts as of January 2020 **"Code of**

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### **Table of Contents Clinical Laboratory Tests Reference Values**

1. Understanding the eBook Clinical Laboratory Tests Reference Values
  - The Rise of Digital Reading Clinical Laboratory Tests Reference Values
  - Advantages of eBooks Over Traditional Books
2. Identifying Clinical Laboratory Tests Reference Values
  - Exploring Different Genres
  - Considering Fiction vs. Non-Fiction
  - Determining Your Reading Goals
3. Choosing the Right eBook Platform
  - Popular eBook Platforms
  - Features to Look for in an Clinical Laboratory Tests Reference Values
  - User-Friendly Interface
4. Exploring eBook Recommendations from Clinical Laboratory Tests Reference Values
  - Personalized Recommendations
  - Clinical Laboratory Tests Reference Values User Reviews and Ratings
  - Clinical Laboratory Tests Reference Values and Bestseller Lists

5. Accessing Clinical Laboratory Tests Reference Values Free and Paid eBooks
  - Clinical Laboratory Tests Reference Values Public Domain eBooks
  - Clinical Laboratory Tests Reference Values eBook Subscription Services
  - Clinical Laboratory Tests Reference Values Budget-Friendly Options
6. Navigating Clinical Laboratory Tests Reference Values eBook Formats
  - ePub, PDF, MOBI, and More
  - Clinical Laboratory Tests Reference Values Compatibility with Devices
  - Clinical Laboratory Tests Reference Values Enhanced eBook Features
7. Enhancing Your Reading Experience
  - Adjustable Fonts and Text Sizes of Clinical Laboratory Tests Reference Values
  - Highlighting and Note-Taking Clinical Laboratory Tests Reference Values
  - Interactive Elements Clinical Laboratory Tests Reference Values
8. Staying Engaged with Clinical Laboratory Tests Reference Values
  - Joining Online Reading Communities
  - Participating in Virtual Book Clubs
  - Following Authors and Publishers Clinical Laboratory Tests Reference Values
9. Balancing eBooks and Physical Books Clinical Laboratory Tests Reference Values
  - Benefits of a Digital Library
  - Creating a Diverse Reading Collection Clinical Laboratory Tests Reference Values
10. Overcoming Reading Challenges
  - Dealing with Digital Eye Strain
  - Minimizing Distractions
  - Managing Screen Time
11. Cultivating a Reading Routine Clinical Laboratory Tests Reference Values
  - Setting Reading Goals Clinical Laboratory Tests Reference Values
  - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of Clinical Laboratory Tests Reference Values
  - Fact-Checking eBook Content of Clinical Laboratory Tests Reference Values
  - Distinguishing Credible Sources
13. Promoting Lifelong Learning

- Utilizing eBooks for Skill Development
  - Exploring Educational eBooks
14. Embracing eBook Trends
- Integration of Multimedia Elements
  - Interactive and Gamified eBooks

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