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SP-1120/001/00

ABSTRACT

This document contains the Urinalysis, Hematology, and Blood Chemistry codes developed for the Simulated Ward Experiment. The document was produced as an appendix to SP-1120. SP-1120 describes how the codes were developed and discusses their potential utilization.

LABORATORY CODES DEVELOPED FOR THE SIMULATED
HOSPITAL EXPERIMENT

The laboratory codes developed for the Simulated Ward Experiment are presented in Tables I, II and III. Table I contains the Urinalysis codes, Table II contains the Hematology codes, and Table III contains the Blood Chemistry codes. The Tables are divided into five columns: Current Item Heading, Current Data Usage, Data Code, Number of Characters, and Card Columns. Current Item Heading refers to the various items on the laboratory form, i.e., the printed heading on the present form. The heading includes identifying information and test titles. Current Data Usage refers to the manner in which information is now recorded on the laboratory form. Data Code refers to the punch-card code that will represent the particular item. Numerical test results (listed as X-X under current data usage) are formatted but not coded. Narrative results are coded as well as formatted. Number of Characters refers to the number of characters required to code and store the given item. Card Columns refers to the columns on a standard 80-column punch-card in which the data will be entered. Card columns 1-5 and 76-80 are reserved for card control data.

Whenever equivalent terms are used, the term which appears with an asterisk (*) is the designated output. For example, the terms "small number," "infrequent," "occasional," "rare," and "1+" are used interchangeably in the hospital and, therefore, all five are coded by the digit "1"; but "1+" has been selected as the preferred output and is designated as "*1+".

TABLE I: URINALYSIS REPORT

CURRENT ITEM HEADING	CURRENT DATA USAGE	DATA CODE	NO. OF CHARACTERS	CARD COLUMN(S)
Patient's Unit Number	5-digit number	Same	5	6-10
Patient's Last, First, and Middle Name	Patient's name	Patient's Initials	3	11-13
(None)	Report Serial Number First Urinalysis Second Urinalysis Third-Eighth Urinalysis	1 2 3-8	1	14
Time of Report	Report Time	Hour	4	15-18
Date of Report	Report Date	Month, Day	4	19-22
Signature	Signature of Authorized Personnel	Initials	3	23-25
Color-Appearance	Color Yellow Amber Straw Bloody Appearance Clear Hazy Turbid	1 2 3 4 C H T	2	26 27
Reaction	XX.X ^{1,2}	Same	3	28-30
Specific Gravity	X.XXX	Same	4	31-34
Albumin	Trace 1+ 2+ 3+ 4+	0 1 2 3 4	1	35
Sugar	Trace *1+; or 1/10% *2+; or 1/4% *3+; or 1/2% *4+; or 2% *negative; or 0%	0 1 2 3 4 5	1	36

TABLE I: URINALYSIS REPORT (CONT'D)

CURRENT ITEM HEADING	CURRENT DATA USAGE	DATA CODE	NO. OF CHARACTERS	CARD COLUMN(S)
Acetone	Positive	0	1	37
	1+	1		
	2+	2		
	3+	3		
	4+	4		
Bile	Negative	N	1	38
	Positive	P		
Microscopic Examination	<u>Adjectives</u>	<u>Adjective Code</u>	NA	NA
	*Present; or positive	0		
	*1+, or occasional; or small number; or rare; or infrequent	1		
	*2+; or few; or some	2		
	*3+; or many; or number	3		
*4+; or great many; or packed	4			
Casts	<u>Hyaline Casts</u>	A ³	2 Per entry	39-44
	<u>Finely Granular Casts</u>	B		
	<u>Coarsely Granular Casts</u>	C		
	<u>RBC Casts</u>	D		
	<u>Hemoglobin Casts</u>	E		
	<u>Pus Casts</u>	F		
	<u>Epithelial Casts</u>	G		
	<u>Fatty Casts</u>	H		
	<u>Waxy Casts</u>	I		
	<u>Broad Casts</u>	J		
Modified by adjectives listed above				
*Mucous Threads; or Cylindroids	Adjective Code ⁴	1	45	
Modified by adjectives listed above				
*Amorphous; or amorphous material; or amorphous sediment	Adjective Code	1	46	
Modified by adjectives listed above				

TABLE I: URINALYSIS REPORT (CONT'D)

CURRENT ITEM HEADING	CURRENT DATA USAGE	DATA CODE	NO. OF CHARACTERS	CODE COLUMN(S)
Microscopic Examination (cont'd.)	<u>Crystals</u> *Amorphous Phosphate Crystals or Phosphate Crystals	K ³	2 per entry	47-54
	Triple Phosphate Crystals	L		
	Calcium Phosphate Crystals	M		
	Calcium Sulphate Crystals	N		
	Calcium Carbonate Crystals	O		
	Calcium Oxalate Crystals	P		
	Uric Acid Crystals	Q		
	Ammonium Borate Crystals	R		
	Sodium Urate Crystals	S		
	Tyrosine Needles Crystals	T		
	Eucine Spheres Crystals	U		
	Cystine Crystals	V		
	Fatty Acids Crystals	W		
	Indigo Crystals	X		
	Hippuric Acid Crystals	Y		
	Modified by adjectives listed above	Adjective Code		
	<u>Bacteria</u> Modified by adjectives listed above	Adjective Code	1	55
	<u>Epithelial Cells</u> Renal Epithelial Cells *Caudate Epithelial Cells; or Cylindrical Epithelial Cells Squamous Epithelial Cells Modified by adjectives listed above	R C S Adjective Code	2	56-59
	<u>Occult Blood</u> Modified by adjectives listed above	Adjective Code	1	60
	<u>Sperm Cells</u> Modified by adjectives listed above	Adjective Code	1	61

TABLE I: URINALYSIS REPORT (CONT'D)

CURRENT ITEM HEADING	CURRENT DATA USAGE	DATA CODE	NO. OF CHARACTERS	CARD COLUMN(S)
Microscopic Examination (cont'd.)	The term RBC/HPF modified by adjectives listed above or RBC/HPF reported as a number such as 0-5 or 1-3	Adjective Code or The numbers recorded on the lab form (without the dash)	2	62 or 62-63
	The term WBC/HPF modified by adjectives listed above or WBC/HPF reported as a number such as 0-5 or 1-3	Adjective Code or The numbers recorded on the lab form (without the dash)	2	64 or 64-65

- ¹ The decimal point is not included in the input code for numerical readings.
- ² The interpretation of the symbol XX.X can be illustrated by the following: A result recorded as 9.32 is coded "093;" a result recorded as 9 is coded "090;" and a result recorded as 93 is coded "930."
- ³ Two columns on the card are allotted for each type of microscopic particle identified. The first column contains the alpha code representing the particle name; the second column contains the numeric adjective code. The entire 6-character field can accommodate a maximum of three entries.
- ⁴ The presence of the microscopic particle is denoted by an adjective code in the card column assigned to the given particle.

TABLE II: HEMATOLOGY REPORT

CURRENT DATA HEADING	CURRENT DATA USAGE	DATA CODE	NO. OF CHARACTERS	CARD COLUMN(S) (FIRST CARD)
Descriptive Headings: All descriptive information on the Hematology Report will be recorded in the same manner as described for the Urinalysis Report.				5-25
Differential Count	The "Differential Count" test is the designation for the series: "W.B.C.," "Neutrophiles," "Blasts," "Myelocytes," "Eosinophiles," "Basophiles," "Platelets," and "Blood Morphology." A ward request for "Differential Count" will represent a request for the entire series.	NA	NA	NA
W.B.C.	XXXXXX	Same	6	26-31
Neutrophiles	XX (NOTE: On "Neutrophiles" and all similar counts, a designation of "None" is to be interpreted as "0".)	Same	2	32-33
Blasts	XX	Same	2	34-35
Myelocytes	XX	Same	2	36-37
Bands	XX	Same	2	38-39
Lymphocytes	XX	Same	2	40-41
Monocytes	XX	Same	2	42-43
Eosinophiles	XX	Same	2	44-45
Basophiles	XX	Same	2	46-47
Reticulocyte Count	XX.X	Same	3	48-50
R.B.C.	X.XXX	Same	4	51-54
Hematocrit	XX.X	Same	3	55-57
Hemoglobin	XX.XX	Same	4	58-61

TABLE II: HEMATOLOGY REPORT (CONT'D)

CURRENT DATA HEADING	CURRENT DATA USAGE	DATA CODE	NO. OF CHARACTERS	CARD COLUMN(S) (FIRST CARD)
Hemoglobin Electro-	AA AS SS SC CC AC	1 2 3 4 5 6	1	62
Blood Morphology Remarks	<p><u>Adjectives</u> *Present; or positive *Slight; or occasional; or rare; or 1+ *Moderate; or some; or few; or 2+ *Many; or numerous; or number; or 3+ *Great many; or packed; or 4+</p> <p><u>Category</u> Anisocytosis Macrocytes Microcytes Poikilocytosis Target Cells Hypochromia Hyperchromia Polychromasia Lobulated Lymphocytes Toxic Lymphocytes Toxic Granulation Bizarre Platelets Increased Platelets Decreased Platelets Giant Platelets</p> <p>Modified by adjectives listed above.</p>	0 1 2 3 4 A B C D E F G H I J K L M N O	2 per entry	63-74

TABLE II: HEMATOLOGY REPORT (CONT'D)

CURRENT DATA HEADING	CURRENT DATA USAGE	DATA CODE	NO. OF CHARACTERS	CARD COLUMN(S) (SECOND CARD)
Descriptive Headings: All descriptive information on the Hematology Report will be recorded in the same manner as described for the Urinalysis Report.				5-25
Platelets	<u>Amount</u> Adequate *Decreased; or diminished Increased	1 2 3	2	26
	<u>Adjective</u> Slight Moderate Marked	S M A		27
Sediment Rate	XX	Same	2	28-29
C.S.R.	XX	Same	2	30-31
L.E. Cell Prep.	Positive Negative	P N	1	32
Wintrobe Indices	M.C.V.: XXX	Same	3	33-35
	M.C.H.: XX	Same	2	36-37
	M.C.H.C.: XX	Same	2	38-39
Lee-White Coagulation Time	<u>First Test Tube</u> XX or "over 60 min."	Same ∅	2	40-41 or 40
	<u>Second Test Tube</u> XX or "over 60 min."	Same ∅	2	42-43 or 42
	<u>Third Test Tube</u> XX or "over 60 min."	Same ∅	2	44-45 or 44
Platelet Count	XXX Thousands	Same e.g.: 42,000 is coded as 042	3	46-48

TABLE III: BLOOD CHEMISTRY REPORT

CURRENT ITEM HEADING	CURRENT DATA USAGE	DATA CODE	NO. OF CHARACTERS	CARD COLUMN(S) (FIRST CARD)
Descriptive Headings: All descriptive information on the Blood Chemistry Report will be recorded in the same manner as described for the Urinalysis Report.				5-25
Glucose	XXX	Same	3	26-28
Uric Acid	X.Y	Same	2	29-30
Bilirubin (Total)	XX.XX	Same	4	31-34
Bilirubin (Direct)	XX.XX	Same	4	35-38
Cholesterol Total	XXXX	Same	4	39-42
Cephalin Flocc.	Amount 1+ 2+ 3+ 4+ Negative Positive For 24 hours For 48 hours	1 2 3 4 N P	2	43 44
Total Protein	X.X	Same	2	45-46
Albumin	X.X	Same	2	47-48
Globulin	X.X	Same	2	49-50
Ratio	X.X	Same	2	51-52
Alakline Phosphatase Acid Phosphat.	XX.X	Same	3	53-55
Transaminase	XX.X XXXX or SGOT or SGPT or Less than 40 units	Same or 0 or P or L	3 5	56-58 60-63 or 59

TABLE III: BLOOD CHEMISTRY (CONT'D)

CURRENT ITEM HEADING	CURRENT DATA USAGE	DATA CODE	NO. OF CHARACTERS	CARD COLUMN(S) (FIRST CARD)
B.S.P.	XX	Same	2	64-65
Thymol Turbidity	XX.X Flocculation Negative Flocculation Positive	Same N P	4	66-68
Creatinine	XX.X	Same	3	69-71
Amylase	XXX	Same	3	72-74

CURRENT ITEM HEADING	CURRENT DATA USAGE	DATA CODE	NO. OF CHARACTERS	CARD COLUMN(S) (SECOND CARD)
Descriptive Headings: All descriptive information on the Blood Chemistry Report will be recorded in the same manner as described for the Urinalysis Report.				5-25
Phosphorus Inorganic or Phosphorus	XX.X	Same	3	26-28
Potassium or K	XX.X	Same	3	29-31
Calcium or Serum Calc.	XX.X	Same	3	32-34
Sodium or Na	XXX.X	Same	4	35-38
Protein-Bound Iodine or P.B.I.	XX.X	Same	3	39-41
CO ₂	XXX.X	Same	4	42-45

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System Development Corporation,
Santa Monica, California
LABORATORY CODES DEVELOPED FOR THE
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