

## Lab Report Templates for case-based learning

The templates below are to be used when presenting lab data to students as part of any case-based learning session (i.e. CDL, mini-cases etc). The intent with these templates is to present lab data in a similar format that they will see in a clinical setting. This is not intended to be how we would document labs in a clinical note because there is already some interpretation in the documentation process. Instead, the intent is to present the labs without any interpretation so that the students need to do that themselves. The normal values in this sheet come from the NBME normal values reference sheet which is what is supplied to the students on summative exams.

Use: Copy the blank template into your case materials. You can remove any rows for testing that you do not want to present to the students. If you need to present lab values that are not included in the template, use the same format and include the normal values from the [NBME normal values reference sheet](#).

### Complete Blood Count with differential (CBC w/ dif)

	Result	Normal Range
White Blood Cell count (WBC)		4500-11000 /mm <sup>3</sup>
Hematocrit		Male: 41%-53% Female: 36%-46%
Hemoglobin		Male: 13.5-17.5 g/dL Female: 12.0-16.0 g/dL
Red Blood Cell Count		Male: 4.3-5.9 million /mm <sup>3</sup> Female: 3.5-5.5 million /mm <sup>3</sup>
Mean Corpuscular Volume (MCV)		80-100 µm <sup>3</sup>
Mean Corpuscular Hemoglobin (MCH)		25-35 pg/cell
Mean Corpuscular Hemoglobin Concentration (MCHC)		31%-36% Hb/cell
RBC Distribution Width (RDW)		11%-15%
Reticulocyte Count		0.5%-1.5%
Platelets		150,000-400,000 /mm <sup>3</sup>
Neutrophils, segmented		54%-62%
Neutrophils, bands		3%-5%
Lymphocytes		25%-33%
Monocytes		3%-7%
Eosinophils		1%-3%
Basophils		0%-0.75%

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### Basic Metabolic Panel (BMP)

	Result	Normal Range
Sodium		136-146 mEq/L
Potassium		3.5-5.0 mEq/L
Chloride		95-105 mEq/L
Bicarbonate		22-28 mEq/L
Urea Nitrogen (BUN)		7-18 mg/dL
Creatinine		0.6-1.2 mg/dL
Calcium		8.4-10.2 mg/dL
Glucose, fasting		70-100 mg/dL

### Comprehensive Metabolic Panel (CMP)

	Result	Normal Range
Sodium		136-146 mEq/L
Potassium		3.5-5.0 mEq/L
Chloride		95-105 mEq/L
Bicarbonate		22-28 mEq/L
Urea Nitrogen (BUN)		7-18 mg/dL
Creatinine		0.6-1.2 mg/dL
Calcium		8.4-10.2 mg/dL
Albumin		3.5-5.5 g/dL
Total Protein		6.0-7.8 g/dL
Globulin		2.3-3.5 g/dL
Bilirubin, Total		0.1-1.0 mg/dL
Glucose, fasting		70-100 mg/dL
Aspartate aminotransferase (AST)		12-38 U/L
Alaine aminotransferase (ALT)		10-40 U/L
Alkaline Phosphatase		25-100 U/L

### Hepatic Panel

	Result	Normal Range
Albumin		3.5-5.5 g/dL
Total Protein		6.0-7.8 g/dL
Globulin		2.3-3.5 g/dL
Bilirubin, Total		0.1-1.0 mg/dL
Bilirubin, direct		0.0-0.3 mg/dL
Aspartate aminotransferase (AST)		12-38 U/L
Alaine aminotransferase (ALT)		10-40 U/L
Alkaline Phosphatase		25-100 U/L

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### Urinalysis

	<b>Result</b>	<b>Normal Range</b>
<b>Color, Urine</b>		Yellow
<b>Clarity</b>		Clear
<b>Specific Gravity</b>		1.005-1.030
<b>pH</b>		5.0-7.5
<b>Protein</b>		Negative
<b>Glucose</b>		Negative
<b>Ketones</b>		Negative
<b>Blood</b>		Negative
<b>Urobilinogen</b>		0.2-1.0 mg/dL
<b>Bilirubin</b>		Negative
<b>Leukocyte Esterase</b>		Negative
<b>Nitrite</b>		Negative

### Urine Microscopy

	<b>Result</b>	<b>Normal Range</b>
<b>WBC</b>		≤ 5 /HPF
<b>RBC</b>		≤ 2 /HPF
<b>Squamous Epis</b>		≤ 5 /HPF
<b>Bacteria</b>		none
<b>Casts</b>		none
<b>Crystals</b>		none

HPF= High power field