

**Beebe Healthcare**  
**Margaret H. Rollins School of Nursing**  
**Nursing 101 - Foundations of Nursing**  
**2022**

## **Client Scenario**

Mr. P., age 61, presented to his primary healthcare provider with complaints of chest pain, a nagging cough, and hemoptysis. He admits to smoking 1 pack per day for 45 years. Mr. P. retired from the local shipyard and stated he had been exposed to asbestos early in his career. Pertinent family history included his mother's death from a stroke and his father's death from lung cancer. He stated his "father died young because of those cigarettes." After a thorough history and physical, Mr. P's healthcare provider ordered a few diagnostic tests including CBC, Chemistry, EKG, and a Chest X-Ray. Following are the results of the tests:

**Urinalysis-** Color yellow, Clarity cloudy, Glucose 3+, Protein Urine Negative, PH 5.0, Ketones Negative, Bilirubin Negative, Blood Negative, Nitrate Negative, Specific Gravity 1.010, Clinitest 4+, Leuko Esterase Trace A, WBC 5-9, Epithelial Cells Moderate

**EKG-** Normal Sinus Rhythm, HR 80 bpm

**Chest X-Ray Impression** - Mass noted in right lower lung field; need more

### **Complete Blood Count (CBC)**

<b>Procedure</b>	<b>Normal Range</b>	<b>Results</b>
WBC	4.8-10.8	6.3
RBC	4.25-5.40	3.79
HEMOGLOBIN	12.0-16.0	11.5
HEMATOCRIT	37.0-47.0	34.4
MVC	81.0-99.0	90.8
MCH	27.0-31.0	30.4
MCHC	33.0-37.0	33.5
RDW	11.5-14.5	12.0
PLATELET COUNT	130-400	296
MPV	7.4-10.4	8.6
LYMPH %	20.5-51.1	32.8
MONO %	1.7-9.3	4.6
EOSINOPHIL %	0.0-4.0	2.6
BASOPHIL %	0.0-1.0	0.6
NEUTROPHIL %	54.0-70.0	59.4
PROTHROMBIN TIME	10.9-12.8	11.3
INR	0.8-1.2	0.9
PTT (ACTIVATED)	22.8-35.2	25.0

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**Complete Blood Count (CBC)**

**Basic Metabolic Panel (BMP) or Chemistry**

<b>Procedure</b>	<b>Normal Range</b>	<b>Results</b>
SODIUM	133-145 MM/L	137
POTASSIUM	3.3-5.1 MM/L	4.6
CHLORIDE	96-108 MM/L	101
CARBON DIOXIDE	23-30 MM/L	25
ANION GAP	5-19 MM/L	11
GLUCOSE	70-105 MG/DL	292
UREA NITROGEN	6-21 MG/DL	12
CREATININE	0.5-0.9 MG/DL	0.8
URICE ACID	2.3-5.7 MG/DL	5.1
CHOLESTROL	120-200 MG/DL	239
HDL CHOLESTROL	>55 MG/DL	46
LDL CHOLESTROL	0-130 MG/DL	135
TRIGLYCERIDES	30-200 MG/DL	290
CALCIUM	8.4- 10.2 MG/DL	9.2
PHOSPHRORUS	2.6-4.5 MG/DL	3.4
ALKALINE PHOSPHATASE	39-125 U/L	87
TOTAL PROTEIN	5.9-8.4 MG/DL	7.1
ALBUMIN	3.2-5.2 G/DL	4.1
TOTAL BILIRUBIN	0.0-1.2 MG/DL	0.5

**Case Study Questions:**

Interpret the above diagnostic tests. Are there any abnormalities? If so, explain the possible reason for the abnormality.

Next, the healthcare provider ordered a CT scan of the chest and sputum for cytology. Why would these tests be ordered? What specifically is each test assessing? What healthcare provider preparation is needed for each test?

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Results from the CT scan revealed a 2cm x 3cm mass in the right lower lung field highly suspicious for cancer. The sputum for cytology revealed abnormal squamous cells. What possible conclusion could you draw from the above results?

Next, the healthcare provider performed a bronchoscopy. How would you prepare the healthcare provider for this procedure?

The mass was located, and a lung biopsy was obtained. It revealed that the mass was a non-small cell lung carcinoma. What nursing care would you provide to Mr. P. at this time?

The healthcare provider then performed a thoracentesis. What is a thoracentesis? How is it performed? What is the nurse's role during this procedure?

Now that a lung cancer diagnosis was confirmed, the healthcare provider ordered a bone scan and MRI of the brain. Why would these tests be ordered? What healthcare provider teaching would you include in preparing Mr. P. for these tests?

Mr. P was a candidate for surgical removal of the tumor via a right lobectomy. Preoperative testing included CBC (see previous results), chemistry (see previous results), and ABGs. What are ABGs? How are they obtained?

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After surgery, Mr. P. had more lab work drawn. His hemoglobin was 9.0 and hematocrit was 27.2. How do these values compare with his preoperative values? What explanation can you give?

Mr. P. also had the following electrolytes drawn. The results were as follows:

Na 130  
K 3.1  
Chloride 95

How do these values compare with his pre-op values? What possible explanation can you give?

Two days after surgery, Mr. P. spiked a temperature of 101.5. The healthcare provider ordered a CBC, urinalysis and urine culture & sensitivity (C & S), chest x-ray, and wound culture & sensitivity (C&S). The abnormal results were as follows:

WBC 15,000  
Neutrophils 76  
Lymphocytes 47  
Urinalysis (see Above)  
Urine C&S- E. coli  
Chest x-ray- surgical removal of right lobe noted; no  
active disease noted  
Wound C&S- no growth x 24 hours

Interpret the above results and identify the probable explanation for the elevated temperature.

After 3 days in the hospital, Mr. P. was discharged home with home health nurses and healthcare provider follow-up.