- 3 Ps Remediation -

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Knowledge Area: P. Assessment	Remediation Topic: Gastroesophageal Reflux (GERD)

Common symptoms of GERD include heart burn, regurgitation, and dysphagia. A positive history of nausea, vomiting, and regurgitation is suggestive of GERD. Other symptoms of GERD include chest pain, cough, and odynophagia. Patients with GERD usually appear ill due to the pain. Common physical examination include hoarseness of voice, laryngitis, otitis media, and lung wheezes. Laboratory findings consistent with diagnosis of GERD is the presence of acidic reflux in the esophagus through the ambulatory reflux monitoring.There are no EKG findings associated with GERD. However, EKG can be performed to exclude the cardiac causes of chest pain that can be presented in cases of atypical GERD. X ray imaging suggestive for associated problems with GERD include free acid reflux, esophagitis with scarring, strictures, and barrett's esophagus. There are no other imaging findings associated with GERD. However, endoscopy may be used in screening for the complications associated with chronic GERD like barrett's esophagus.

Knowledge Area: Pathophysiology	Remediation Topic: Hemoptysis

The lungs has two main vascular systems that include pulmonary circulation and bronchial circulation. There are multiple anastomoses between pulmonary and bronchial arteries which create physiologic right to left shunts. Blood in the hemoptysis is mostly originated from the Lung. However, it could be from the gastrointestinal system as well. Primary origin of the blood comes from bronchial arteries. However, other sources of bleeding might be pulmonary vessels, aorta, intercostal, coronary, thoracic, and phrenic arteries. Hemoptysis is an important symptom that has different etiologies and pathogenesis mechanisms. Hemoptysis may happen following infarction and ischemia of pulmonary parenchyma as seen in pulmonary embolism, vasculitis, and infections. Another mechanism of hemoptysis is vascular engorgement with erosion as seen in bronchitis, bronchiectasis, and toxic exposure to cigarette and other irritants. There are multiple conditions that are associated with hemoptysis which include granulomatosis with polyangiitis, sarcoidosis, immunodeficiency, and indoor ice hockey play.

Knowledge Area: Pharmacology	Remediation Topic: Diabetes

Diabetes mellitus is a chronic metabolic disorder of carbohydrates, proteins and fat metabolism which can be due to absolute or relative deficiency of insulin secretion or insulin resistance. Eventhough insulin therapy and oral hypoglycemic agents are the first line of treatment for the diabetes mellitus they have some side effects and fail to significantly alter the course of diabetic complication. The dose of insulin required to control the diabetes varies from patient to patient and from time to time in the same patient. Currently available oral therapies for treatment of diabetes mellitus are sulfonylureas, biguanides, α-glucosidase inhibitors, and glinides, which can be used alone or combined with other drugs to achieve better effect. Many of these oral antidiabetic agents have a number of serious adverse effects, thus, the management of diabetes without any side effects is still a challenge. Sulphonylureas are absorbed rapidly from the intestine, some important drugs of this group are tolbutamide, chlorpropamide, glibenclamide, tolazamide etc. Biguanides is the other class of oral anti-diabetic agents which control all types of diabetes mellitus. It reduces glucose absorption from the intestine and can also be used to treat mild diabetes during pregnancy.

Knowledge Area: Pharmacology	Remediation Topic: Diabetes - Glyburide

Glyburide is used together with diet and exercise to improve blood sugar control in adults with type 2 diabetes mellitus. Glyburide is not for treating type 1 diabetes. Glyburide is a second generation sulfonylurea that stimulates insulin secretion through the closure of ATP-sensitive potassium channels on beta cells, raising intracellular potassium and calcium ion concentrations. Glyburide has a long duration of action as it is given once daily. It is used an adjunct to diet to lower the blood glucose in patients with non-insulin-dependent diabetes mellitus (Type II diabetes). Alcohol can make the side effects from Glyburide worse. Consuming alcohol while taking Glyburide also rarely may cause symptoms such as flushing (reddening of the face), headache, nausea, vomiting, chest pain, weakness, blurred vision, mental confusion, sweating, choking, breathing difficulty, and anxiety.