

Appendix 1

Dear Students,

This form addresses the signs and symptoms of Healthcare-Associated Infections (HAIs). The purpose of this research is to assess your knowledge regarding these infections. Please select the signs and symptoms related to the various types of HAIs mentioned below. It is important to note that the Institutional Review Board of Kermanshah University of Medical Sciences approved this research (IR.KUMS.REC.1401.059), and participation in this research project is voluntary.

HAI Type	Signs and symptoms	Yes	No
Pneumonia	Having tracheal tub		
	Having tracheostomy tube		
	Fever ($>38^{\circ}\text{C}$)		
	Leukopenia ($\text{WBC}^1 < 4000$)		
	Leukocytosis ($\text{WBC} > 12000$)		
	Change in LOC		
	New onset of purulent sputum or change in character of sputum, increased respiratory secretions, or increased suctioning requirements		
	New onset or worsening cough, or dyspnea, or apnea, or tachypnea		
	Rales or bronchial breath sounds		
	Worsening gas exchange (such as O_2 desaturations [for example pulse oximetry $< 94\%$, $\text{PaO}_2^2/\text{FiO}_2^3 \leq 240$], increased oxygen requirements, or increased ventilator demand)		
	Positive quantitative culture or corresponding semi-quantitative culture as a result of lung tissue		
	$\geq 5\%$ BAL ⁴ -obtained cells contain intracellular bacteria on a direct microscopic exam (for example Gram's stain)		
	Abscess formation or foci of consolidation with intense PMN ⁵ accumulation in bronchioles and alveoli		
	Evidence of lung parenchyma invasion by fungal hyphae or pseudohyphae		
	Evidence of fungi (Positive culture of fungi)		
	Antibiotic therapy		
	ESR(>30) and CRP(>100)		
	Radiologic evidence (Infiltrate, Consolidation, Cavitation)		
BSI	Having temporary CVL ⁶		
	Having permanent CVL		
	Having arterial line		
	Fever ($>38^{\circ}\text{C}$)		
	Leukopenia ($\text{WBC} < 4000$)		
	Leukocytosis ($\text{WBC} > 12000$)		
	ESR (>30) and CRP(>100)		
	Chills		

HAI Type	Signs and symptoms	Yes	No
	Hypotension		
	Organism(s) identified in blood are not related to an infection at another site		
SSI	Date of surgery (Date of event occurs within 30 to 90 days following operative procedure)		
	Fever (>38 c)		
	Leukopenia (WBC<4000)		
	Leukocytosis (WBC>12000)		
	Positive wound culture		
	Localized pain around the incision		
	Warmth around the incision		
	Erythema around incision		
	Localized swelling around the incision		
	Localized tenderness around the incision		
	Purulent drainage from the superficial incision		
	Purulent drainage from the deep incision		
	Evidence of an abscess		
	An incision that is deliberately opened by a surgeon, physician, or physician designee		
	An incision that is spontaneously opened		
UTI	Having urinary catheter		
	Fever (>38 c)		
	Leukopenia (WBC<4000)		
	Leukocytosis (WBC>12000)		
	Suprapubic tenderness		
	Suprapubic pain		
	Dysuria		
	Urinary frequency		
	Urinary urgency		
	Oliguria		
	ESR(>30) and CRP(>100)		
	Pyuria		
	Positive urine culture		