

# Course 1 (MDCN 350): Intro to Medicine, GI, & Hematology

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## Vital Signs

### Normal Vital Signs

- Bp: 90/60 mmHg to 120/80 mmHg
- Hr: 60-100 bpm
- RR: 12-18 breaths/min
- Temp: 36.5-37.3 °C (97.8-99.1 °F)

### Hemodynamic Instability

- Orthostatic hypotension:  $-20$  SBP or  $-10$  DBP mmHg upon standing w/in 3 min
- Orthostatic tachycardia:  $+30$  bpm upon standing w/in 3 min
- Resting tachycardia:  $>100$  bpm

### Hypovolemia

- Mild hypovolemia:  $<15\%$  blood volume
- Moderate hypovolemia: deficit 20-40% blood volume
- Severe hypovolemia: deficit  $>40\%$  blood volume
- Remember: cardiac output = heart rate  $\times$  stroke volume

## Blood Cell Counts

- Hematocrit: ( $\varphi$ ) 37%-47%, ( $\sigma$ ) 42%-52%
- Neutrophils:  $3-5.8 \times 10^9$  /L, 50-67% of leukocytes
- Lymphocytes:  $1-3 \times 10^9$  /L, 25-33% of leukocytes
- Monocytes:  $0.3-0.5 \times 10^9$  /L, 5% of leukocytes
- Eosinophils:  $0.5-2.5 \times 10^9$  /L, 1-4% of leukocytes
- Basophils:  $0.15-0.5 \times 10^9$  /L, 0-1% of leukocytes
- Reticulocytes: 1-2% of RBCs

## Cancer Staging

### TNM Staging

- T: size of primary tumour / extent of local spread
- N: spread to nearby lymph nodes (size & number)
- M: presence / absence of metastases

### Staging System

- 0: group of abnormal cells (e.g., dysplasia)
- I: cancer small and contained w/in organ of origin
- II: cancer larger than I but no metastases; sometimes spreads into local lymph nodes
- III: large cancer and possible metastases
- IV: cancer spread to blood or lymph system

### ECOG Performance Categories

- 0: fully active, pre-disease performance
- 1: restricted in physically strenuous activity but can do light work (e.g., office work)
- 2: ambulatory and capable of all self care; confined to bed or chair  $<50\%$  of waking hours
- 3: capable of limited self care; confined to bed or chair  $>50\%$  of waking hours
- 4: completely disabled; cannot carry out self care; totally confined to bed or chair

## Anemia

### Mean corpuscular volume (MCV)

- MCV  $> 100$  = macrocytosis
  - B<sub>12</sub> deficiency, folate deficiency, drugs, alcohol, liver disease, hypothyroidism, reticulocytosis
- MCV btw 80-100 = normal
  - Bleeding, hemolysis, bone marrow failure, renal disease, endocrine disease, anemia of chronic inflammation
- MCV  $< 80$  = microcytosis
  - Iron deficiency, thalassemia, anemia of chronic inflammation, sideroblastic anemia

Normal Hb range: 120-140 g/L; usually transfuse Hb  $< 70$  g/L