Triage & Patient Assessment

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Triage

- Process to assess the urgency of illness in order to prioritize the order of treatment
- Team approach
  - Reception
  - RVT
  - DVM

<table>
<thead>
<tr>
<th>Category</th>
<th>Response Time &amp; Type of Injuries</th>
</tr>
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<tbody>
<tr>
<td>Critical</td>
<td>Must be attended immediately e.g. shock, toxicity, hemorrhage, head trauma, dystocia, seizures</td>
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<tr>
<td>Urgent</td>
<td>Must be attended within 2 hours e.g. open fractures, trauma with no signs of shock/CNS changes, active vomiting, profuse diarrhea</td>
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<tr>
<td>Stable</td>
<td>Must be attended within 24 hours e.g. lameness, anorexia</td>
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</table>
Initial Evaluation

- Brief history
- Primary survey
- Rapid diagnostic tests

1-Brief history

- Signalment (breed, age, sex)
- Presenting complaint
- Relevant prior medical history
  - Active illness/chronic illnesses
  - Current therapy
- Onset and progression
- Recent therapy

Example

- 10yr MN GRD – Collapsed this morning
- 8 wk old F puppy – V/D and lethargy
- 6yr MN DSH – straining in litter box
Primary Survey

- Mentation
- RR/effort
- MM & CRT
- Auscultation
- Femoral/dorsal pedal pulses
- Temperature
- Pain

“ABC vs CAB”

- Circulation and level of Consciousness
- Airway and Analgesia
- Breathing and Bleeding
Circulation
- Identify Shock (impaired circulation)
  - Mental alertness
  - Capillary refill time (CRT)
  - Mucous membrane color (MM)
  - Heart rate (HR)
  - Peripheral pulses (PP)
  - Temperature

Shock
- Compensatory shock
  - Most reversible stage of shock
  - Excellent prognosis
  - Tachycardia as a physiologic response to shock is often only identifiable sign

Tachycardia
- Pain
- Stress/Anxiety
- Hypotension
- Hypovolemia
- Cardiac
- Hypoxia
- Hypercapnea
- Hyperthermia
- Toxin
- Hyperthyroidism
Types of Shock

- Hypovolemic
  - Hemorrhage or marked fluid loss (e.g. HGE)
- Distributive
  - Vasodilatory (e.g. sepsis/anaphylaxis)
- Obstructive
  - Impaired venous return (e.g. GDV or pericardial effusion)
- Cardiogenic
  - Cardiomyopathy or arrhythmia

Level of Consciousness (LOC)

- Mental status
  - Perfusion must be restored (MAP > 60mmHg)
- Pupil size, symmetry and PLRs
  - Preserved with metabolic diseases/shock
  - Alerted with primary CNS disease
- Monitor changes/Assess frequently

Airway

- Absent or Sporadic breathing pattern
Analgesia

- Reduces stress and anxiety
- Facilitates patient assessment
- Prevents cardiopulmonary arrest
- Will not mask the signs of shock or blunt compensatory mechanism

TITRATE

Analgesia/Sedation in Urgent Care

- Titrate to effect
- Analgesia
  - Use CV sparing agents with reversal
  - Eg: hydromorphone, fentanyl, methadone
- Sedation
  - Benzodiazepines (e.g., Diazepam or midazolam)
  - Butorphanol
  - Alfaxalone (IM) or Propofol (IV)
  - Acepromazine (low dose)
  - Ket/Val 1:1 or 1:2

Breathing

- Sedate or intubate?
- Upper airway vs lower airway
  - Audible sound
- Thoracic vs extrathoracic disease
  - Examine MM (pale, cyanotic, injected?)
- Lung parenchyma vs pleural space
  - Examine the pattern
- Auscultation
  - Crackles? Wheezing? Dull/absent?
Oxygen support

Bleeding

- Signs of shock?
- Compressible bleeding
  - External bleeding
- Non-compressible bleeding
  - Internal bleeding
- Acute or Chronic?

<table>
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<tr>
<th>% Blood Loss</th>
<th>Clinical Signs</th>
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<tr>
<td>15% of Blood volume (~10-12ml/kg)</td>
<td>None to minimal (mild tachycardia, normal BP and RR)</td>
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<tr>
<td>15-30% of blood volume (~12-25ml/kg)</td>
<td>Quiet, pale mm, tachycardic, tachypneic with weak dpp and hypotension</td>
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<tr>
<td>30-40% of blood volume (~25-32ml/kg)</td>
<td>Dull to obtunded, pale to white mm, prolonged CRT, tachycardic, tachypneic, weak to absent dpp, hypotensive</td>
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<tr>
<td>&gt;40% of blood volume (~35ml/kg)</td>
<td>Obtunded, white mm, CRT absent, cold extremities, tachycardic to bradycardic, tachypneic to hypoventilating, absent dpp, hypotensive</td>
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IV Access

- Essential
- Patient status dictates placement
- Sedation over manual restraint
- Obtain blood for ICU quick assessment tests via catheter

Fluid Plan

- Hypotensive
  - 10-20ml/kg bolus until SAP 90/MAP 60+ mmHg
- Dehydrated
  - Volume to be infused = % dehydration + maintenance + ongoing losses
- Hemorrhage
  - Volume to be infused = % blood loss + maintenance fluids + ongoing losses

Temperature

- Hyperthermia
  - Environmental/Exertion
  - Airway obstruction
- Fever
  - Infectious
  - Non infectious
  - Immune-mediated
  - Neoplastic
- Opioids
- Hypothermia
  - Shock
  - Environmental
3-Rapid diagnostic tests

- PCV and total protein
- Blood smear
- Blood glucose
- Lactate
- Electrolytes +/- blood gas
- Creatinine/BUN +/- USG/SDMA
- Bedside abdominal u/s
- +/- ACT or in house coagulation

PCV/TP

- Anemia
  - Hemolysis
  - Bone marrow
  - Hemorrhage

- Slide agglutination
- Platelet estimate

Blood Glucose

- Glycogen stores (nutritional)
- Sepsis
- Liver failure
- Hypoadrenocorticism
- Insulin secreting tumours
- Insulin overdose
- Toxins (e.g. xylitol)
## Hyponatremia

- Diarrhea
- 3rd spacing/effective circulating volume
- Hypoadrenocorticism
- Renal disease
- Liver disease
- Hyperglycemia (pseudo)

## Lactate

- Assessment of global tissue hypoperfusion
- By product of anaerobic metabolism
- Muscle and splanchnic circulation
- Prognostic significance
  - Trends

## Metabolic acidosis

- Lactate
- Uremic acids
- Ketones
  - pH < 7.4
- Ethylene glycol
  - HC03 < 24
- ASA
  - ABE < -4
- Electrolyte imbalance
  - Na- Cl
Metabolic alkalosis

- Upper GI obstruction
- Diuretic use
  (furosemide)
  - pH > 7.4
  - HCO3 > 24
  - ABE > +4

“FAST” ultrasound

- Focused Assessment with Sonography in Trauma
- aFAST
  - Abdomen
  - Evaluation of free fluid, intact bladder +/- free air
- tFAST
  - Thorax
  - Evaluation of pleural & pericardial effusion, lung changes, pneumothorax +/- cardiac chamber size

aFAST
Assessment & Plan

- **Assessment**
  - Critical inpatient?
  - Stable inpatient?
  - Outpatient?

- **Formulate DDx list and refine as work thru above**

- **Plan**