Goals & Objectives:
1. Discuss the principles of initial assessment of a geriatric trauma patient.
2. Recognize physiologic and anatomic changes that occur with aging that are relevant to trauma management of the elderly.
3. Review the causes of falls in the elderly.

Equipment:
1. SimMan
2. Code Cart
3. Monitor/Defibrillator/Pacer
4. Backboard
5. C-Collar
6. Styrofoam block for kyphosis
8. US of AAA (un-ruptured)

Moulage:
1. In C-collar (kyphosis), on backboard with head held up by Styrofoam block.
2. Multiple various abrasions/contusions on the scalp and face.
3. Pulsatile mass in abdomen

Simulation Specific Instructions:
1. Sim Man in simulated kyphotic position with collar.
2. Patient will present with stable vitals signs, but will crash due to rupture of AAA when sent to the CT scanner. Abdominal pain, nausea, vomiting, diaphoretic, bradycardic to 20's, decreased respirations.
3. Patient will be resuscitated using BVM and atropine and fluid bolus and vital signs will return to baseline except BP in the 80's.

Initial Vignette:
81 yr old female driver of a car. She was found with her car in a ditch. Per EMS she was initially unconscious but became awake and confused by the time EMS arrived 20 minutes after being found. Initial vital signs: 100/60, pulse 55, RR 20, O2sat 94%. GCS 14. RTS 12.

Initial Appearance:
Alert, oriented x 2, BP 105/65, pulse 58, RR 20, O2 sat 94%. The patient is on a backboard with C-collar and complaining of flank pain.
Scenario Flow (Initial encounter **10 minutes**, CT deterioration **10 minutes**)

- Primary assessment: ABCDE
- 100% O2, 2 large bore IV's with limited fluid bolus due to age.
- Kyphosis stabilized with blankets and towels.
- PMH: Illnesses: Hypertension, hypothyroidism  
  Meds: Synthroid, Diltiazem, Lisinipril  
  Allergies: NKDA
- Secondary Survey should identify pulsatile mass. US FAST allowed after identification of mass by palpation. If resident decides patient too unstable for CT scan have them crash then.
- Order CBC, CMP, UA, Blood typed, Cardiac enzymes, PT/INR, EKG.
- Order CT head, neck, chest, abdomen, pelvis. Optional plain films.
- Patient crashes at CT scanner just as finished. BP 50/P, HR 35, RR 4
- Requires BVM, atropine, IVF bolus to be resuscitated. Breathes on own when HR and BP improve following atropine and fluid.
- CT read of AAA. Can be read by resident or radiologist.
- PRBC transfusion ordered.
- Surgeon called

**Critical Actions**  
- C-spine stabilized  
- 2 large bore IV's  
- Identify syncopal event occurred  
- Identify pulsatile mass  
- Appropriate studies ordered  
- Recognize patient deterioration  
- Treat respiratory insufficiency  
- Treat bradycardia and hypotension  
- Transfusion ordered

**Facilitator Debriefing Points**  
- Causes of syncope in the elderly (*Orthostatic, Situational or Vasovagal, Cardiac, CVA, Psychogenic, Metabolic, Unknown*)  
- Causes of falls in the elderly  
- Influence of age and medications on response to stress  
- Discuss strategies for monitoring the adequacy of fluid resuscitation  
- Proper BVM technique  
- Safe practices for when the patient leaves the E.D. for studies.
For Geriatric Scenario #4A

**CBC Results**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBC:</td>
<td>12.1</td>
</tr>
<tr>
<td>Polys:</td>
<td>67</td>
</tr>
<tr>
<td>Bands:</td>
<td>4</td>
</tr>
<tr>
<td>Lymphs:</td>
<td>29</td>
</tr>
<tr>
<td>HgB:</td>
<td>9.2</td>
</tr>
<tr>
<td>Hct:</td>
<td>28.1</td>
</tr>
<tr>
<td>Platelets</td>
<td>199,00</td>
</tr>
</tbody>
</table>
For Geriatric Scenario #4A

**Electrolyte Results**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Na</td>
<td>144</td>
</tr>
<tr>
<td>K</td>
<td>5.0</td>
</tr>
<tr>
<td>Cl</td>
<td>98</td>
</tr>
<tr>
<td>HCO3</td>
<td>21</td>
</tr>
<tr>
<td>BUN</td>
<td>15</td>
</tr>
<tr>
<td>Cr</td>
<td>1.1</td>
</tr>
<tr>
<td>Glu</td>
<td>119</td>
</tr>
<tr>
<td>LFT's</td>
<td>Normal</td>
</tr>
<tr>
<td>TB</td>
<td>0.9</td>
</tr>
<tr>
<td>Ca</td>
<td>9.8</td>
</tr>
</tbody>
</table>
For Geriatric Scenario #4A

**Urinalysis Results**

- **Specific Gravity:** 1.020
- **pH:** 7.1
- **Protein:** 2+
- **Glucose:** None
- **Blood:** 2+
- **Ketones:** None
- **WBC:** 5-10
- **RBC:** 30-50
- **Epi:** None
- **Bacteria:** None
For Geriatric Scenario #4A

Cardiac Enzymes

CPK: 101
CK-MB: 2.0
Troponin: 0.5
For Geriatric Scenario #4A

Coagulation Studies

PT: 12.2
INR: 1.4
For Geriatric Scenario #4A

**ABG Results**

- pH: 7.46
- pO2: 585
- pCO2: 22
- HCO3: 20
- HgB: 9.9
- COHgB: 1.8
- MetHgB: 0/2