

Scene size-up



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All EMS **must** provide

1. Promptly recognition of Life-threatening condition
2. Triage and Life-saving treatment
3. Stabilization and transport

Scene Size-up

- First Assessment for every EMS response
- **SAFE AND Adequate information** for decision making.
- Continual process : Every scene is **Dynamic**

Scene size-up ; steps when approaching

1. Checking scene safety
2. Taking Standard Precautions
3. The mechanism of injury or nature of pts. illness
4. Determining the number of patients, additional resources

Scene Size-up

1. Body substance isolation : BSI
2. Scene (Scene safety)
3. Nature of call ; mechanism of injury
4. Number of patient AND Additional resource



Body substance isolation : BSI

- Protection from body fluid transmission (Hepatitis, HIV), aerosol (respiration)
 - Face mask ; Suspected pulmonary TB need N95 or high efficiency particulate air (HEPA) respirator
 - Goggle
 - Gloves, Gown and Boots



Level A



BSI for HAZMAT

- Highest level of protection (vapor and splash)
- Fully encapsulate
- Self-contained Breathing Apparatus
- Chemical resistant boots and gloves

Level B

BSI for HAZMAT



- Respiratory protection (as level A)
- Self-contained Breathing Apparatus worn on outside of chemical resistant suit
- Chemical resistant boots and gloves
- All seams are taped to seal

Level C

BSI for HAZMAT



- Air-purifying Respiratory protection
- Chemical resistant suit, boots and gloves
- All seams are taped to seal

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Wires down ; electrical hazard

Traffic

Smoke from vehicle

Spilled fuels

Broken glass



Scene safety

- Always the highest priority ; Do Not enter to unsafe scene
- Seeking for Hazardous condition
- Three Safety Questions :
 - ✓ ปลอดภัยหรือยัง ?
 - ✓ มีการป้องกันอันตรายซ้ำซ้อนหรือไม่ ?
 - ✓ จะช่วยเหลือเพื่อให้เกิดความปลอดภัยอย่างไร ?

Scene safety

- Observe the scene while approach and again before exit the ambulance



Near the scene

- Look and listen to other EMS
- Observe traffic flow
- Look for smoke on the direction of scene

Scene safety

- Observe the scene while approach and again before exit the ambulance



Nearly approach

- Look for clue escape Hazardous material
- Look for collision victims, smoke, downed wire
- watch the signal of police or other EMS

Scene safety

- Observe the scene while approach and again before exit the ambulance



Reach the scene

- sniff for odor

Scene safety ; Danger zone

- Around the wrecking, vehicle collision
- Size depends on : **nature of incidence**, severity of collision produced hazard
- Ambulance must park outside the danger zone
- Collision without apparent hazard **50 feet** all direction

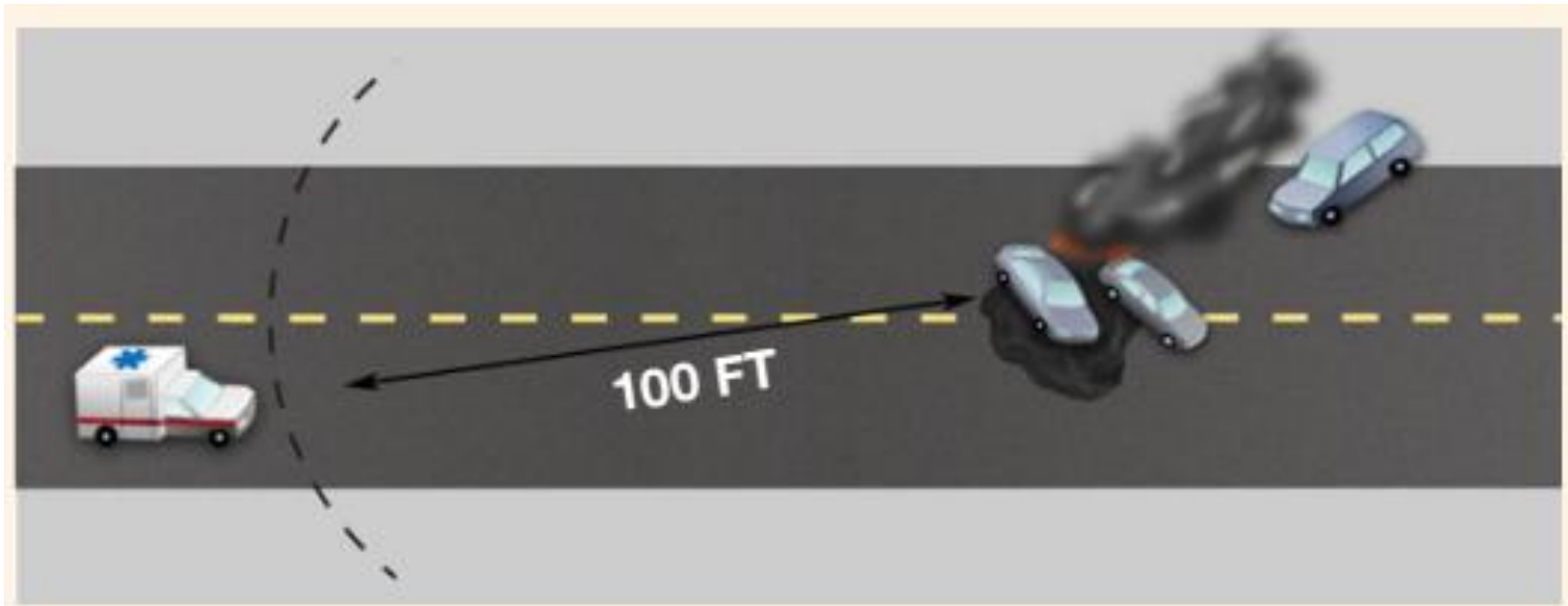
Scene safety ; Danger zone



Collision with Spilled fuel

- Park uphill, upwind far from flowing fuel

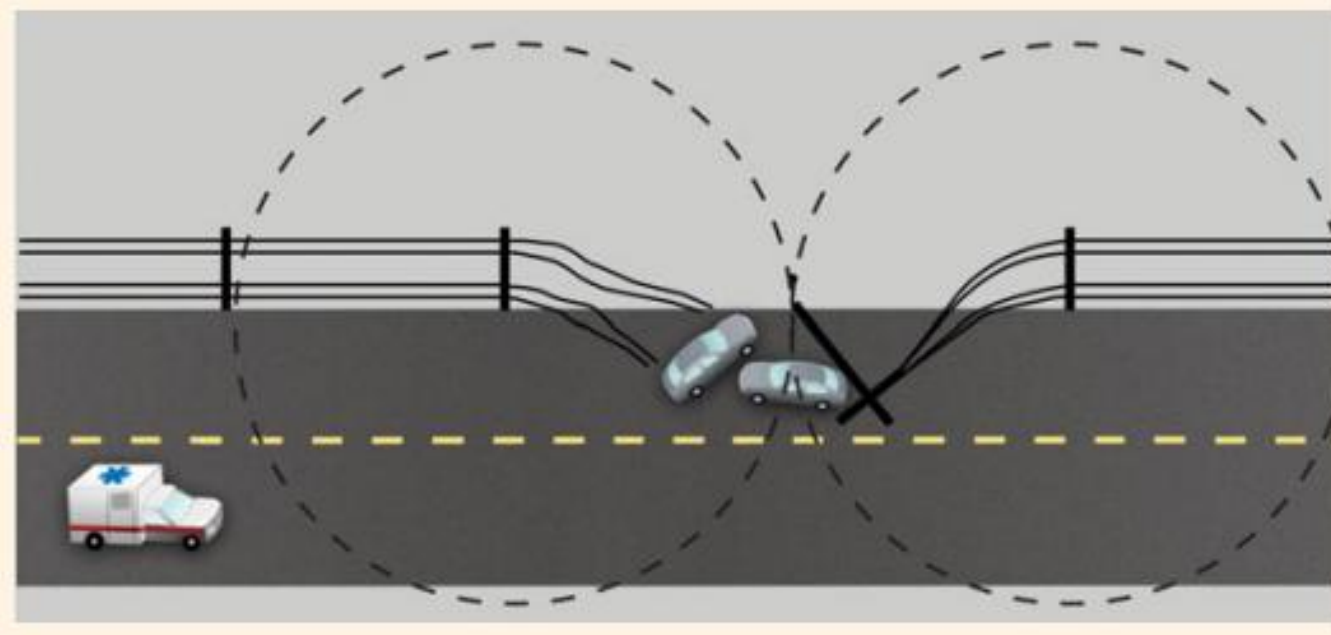
Scene safety ; Danger zone



Collision with on fire

- At least 100 feet all direction from burning vehicle
- Aware of explosion

Scene safety ; Danger zone



Wire down ; Waiting for deactivate the wire

- Parked at least **one full span** of wire from the pole to which broken wire



Hazardous material incidence

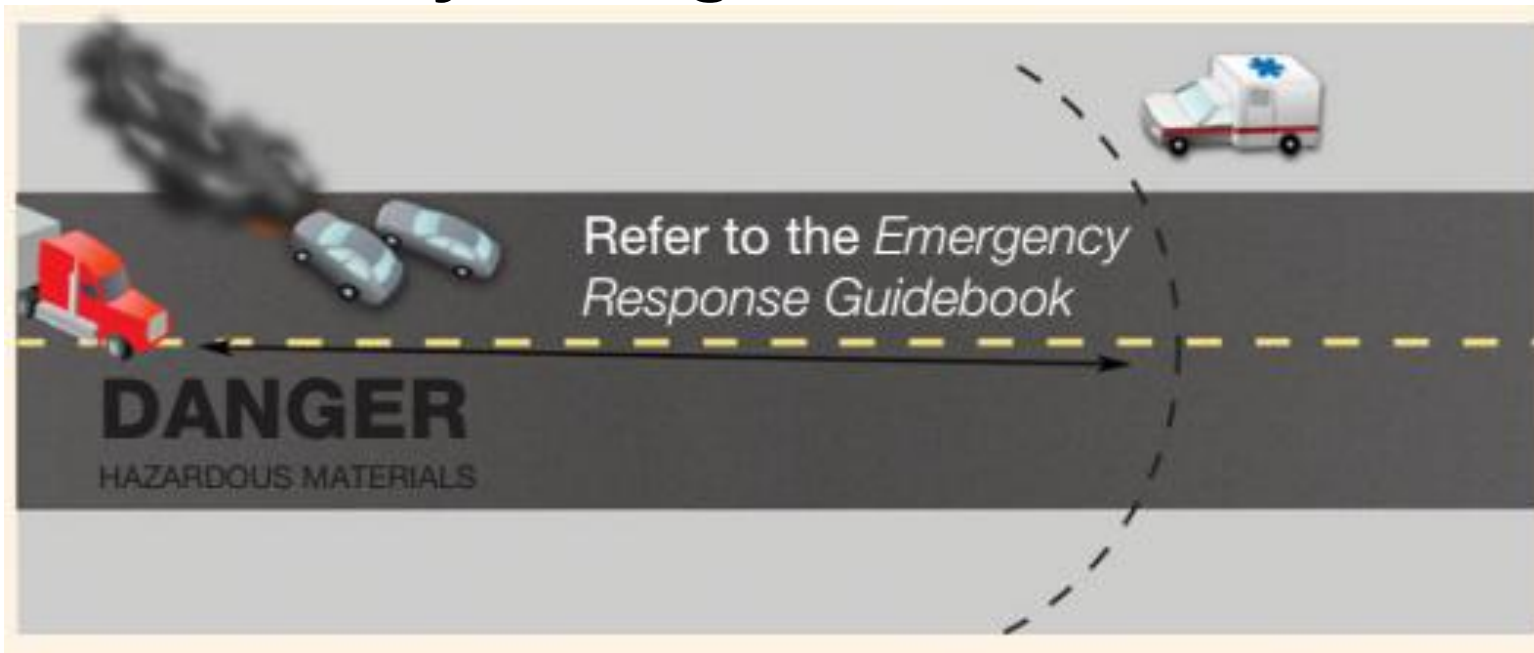
Scene safety ; Danger zone



Hazardous material incidence : leaking container

- Park upwind,
- Consult expert through incident commander

Scene safety ; Danger zone



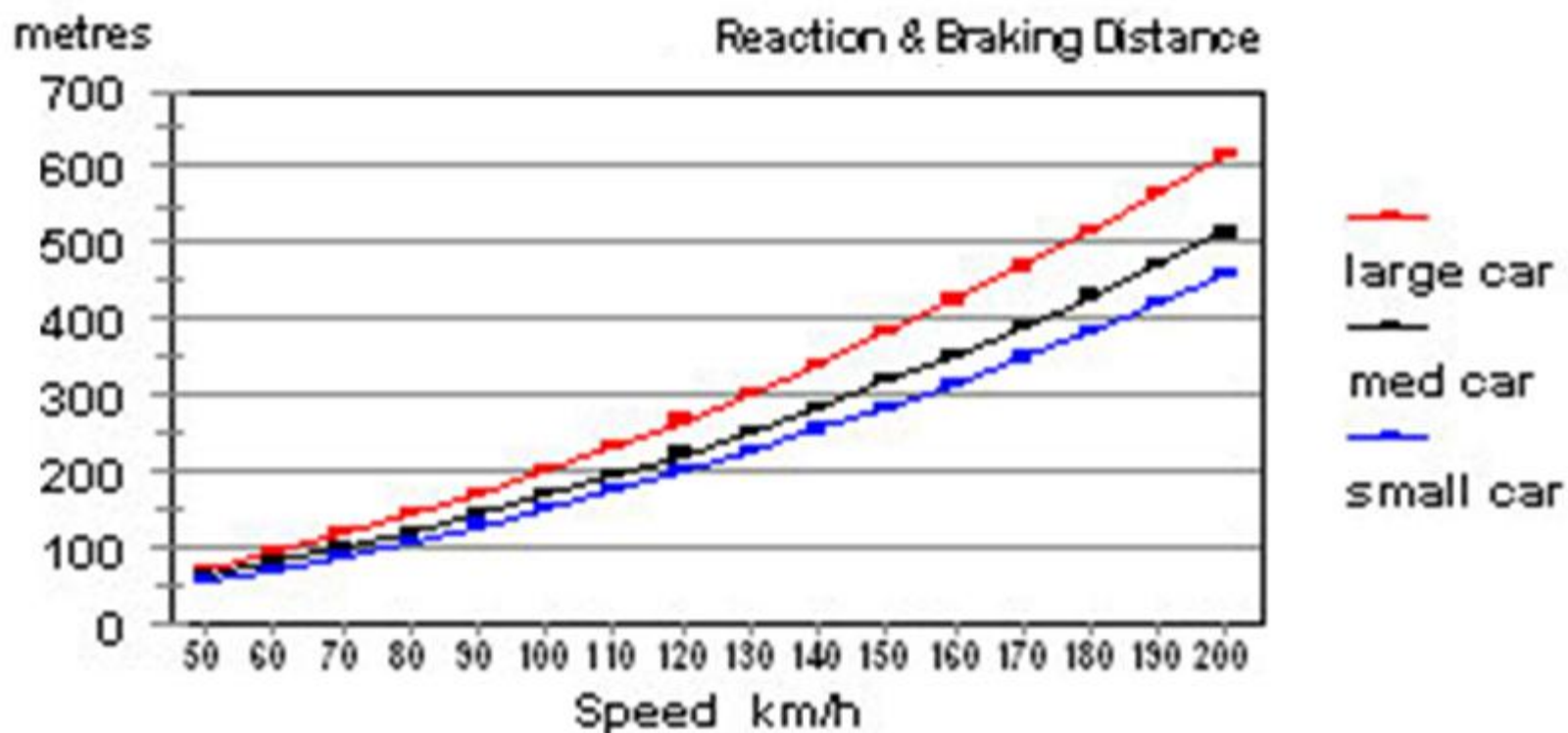
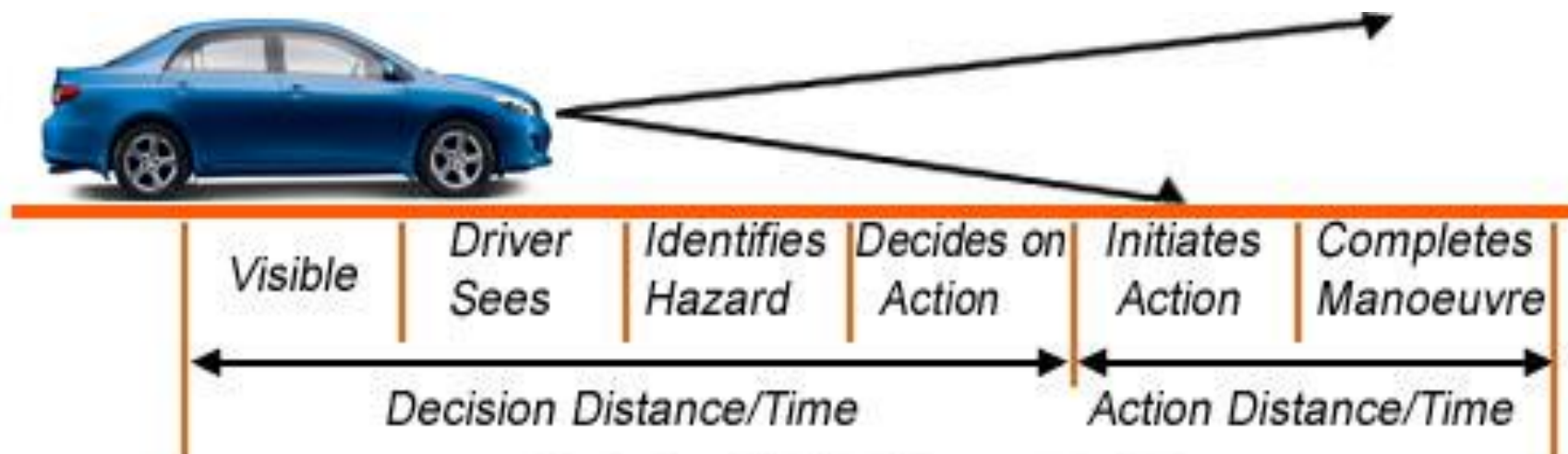
Hazardous material incidence : threaten by fire

- Binoculars to read placard on truck , refer to ERG book guideline for safe distance
- Park upwind

Scene safety ; Danger zone

- การประเมินความมั่นคงของรถ ดับเครื่อง เบรกมือ
หุ้ยนลื้อ ระวังติดไฟ
- ระยะกั้นกรวย ประมาณ 3 เท่าของ speed limit

เช่น 50 km/hr ควรวางกรวย 150 เมตร ก่อนถึงจุดเกิดเหตุ
หากเป็นทางโค้งควรวางกรวยก่อนถึงโค้ง



Crime or violence



Photo by Soichiro Koriyama

Crime Scenes

- Never enter a violent situation to provide care
- Safety at a violent scene requires a careful size-up as you approach
- Generally, retreat to a position of safety, call for help, and return only after the scene has been secured by police

Crime Scenes

- Fighting or loud voices : see or hear fighting, threatening words or actions, or the potential for fighting, scene will be a danger
- Weapons visible or in use
- Signs of alcohol or other drug use
- Unusual silence



Nature of the call _ **After ensure scene safety & BSI**

Nature of the illness

1. Finding out ; what is or what may wrong
2. Scan entire scene
3. Information ; pt., family member or bystander and clues at scene

Mechanism of injury

1. Motor vehicle collision
2. Fall
3. Penetrating trauma
4. Blunt trauma

Mechanism can predict types of injury

TRAUMA

Head-on collision



Rear-end collision



Rollover



Side impact



Nature of the call

Head on collision

Mechanism of injury



(A)



(B)

(A) up-and-over :head, neck, chest, and abdominal injuries

(B) down-and-under : hip, knee, and leg injuries.

Nature of the call

Rear-end collision

Mechanism of injury



(A)



(B)

Rear-end collision, the unrestrained person's head is jerked violently (A) backward and then (B) forward, causing neck, head, and chest injuries.

Nature of the call

Side Impacted

Mechanism of injury

- Broadside or “T-Bone
- Head remain still as the body is pushed laterally
- Injuries to neck, head, chest, abdomen, pelvis and thighs



Nature of the call

Rollover collision

Mechanism of injury



potential for multiple impacts, frequently cause ejection of anyone who is not wearing a seat belt, **Expect any type of serious injury pattern**

Nature of the call

motorcycles and all-terrain vehicles



Mechanism of injury

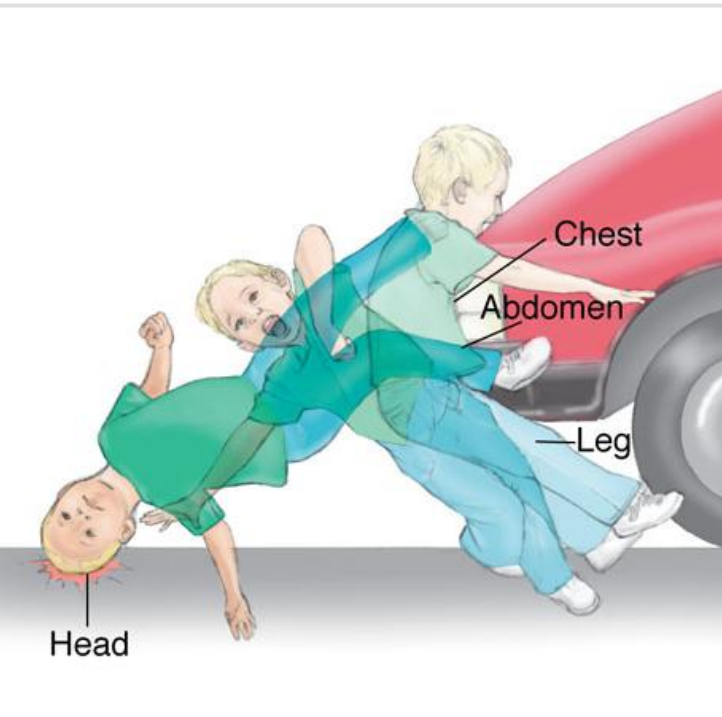
- potential to be serious; little protection in the event of a collision
- wearing a helmet that offered some protection from head injury

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Nature of the call

Mechanism of injury

Pedestrian Injuries



- Adult
 - 1st impact: strikes body with bumpers
 - 2nd impact: thrown on hood and/or grille
 - 3rd impact: body strikes the ground or some other object
- children and people of short stature
 - Bumper hits pelvis and femur
 - Chest and abdomen hit grille
 - Head strikes vehicle and ground

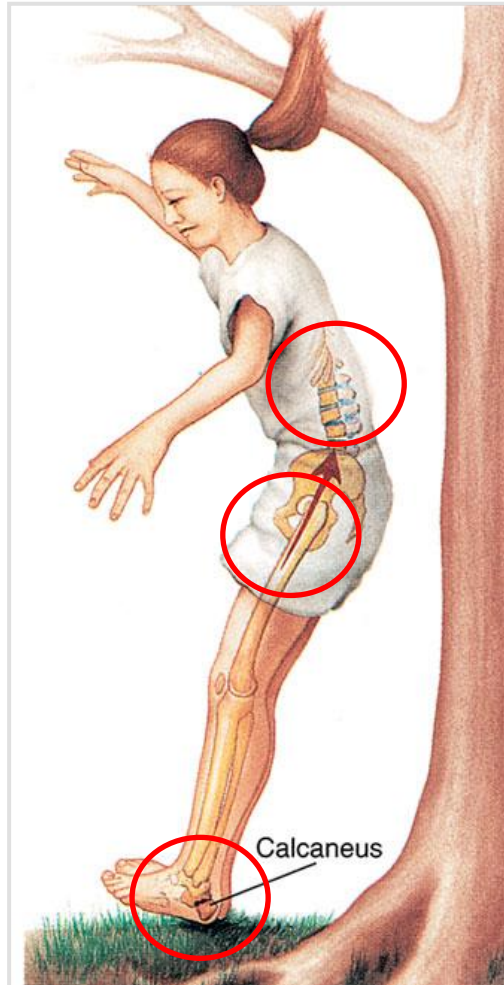
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Mechanism of injury and related suspected injury pattern

Mechanism of injury	suspected injury pattern
Frontal impacted	Cervical spine fracture Anterior flail chest Myocardial contusion Pneumothorax Trauma aortic disruption Fracture of Spleen and Liver Dislocation of Hip and/or knee
Side impact	Cervical spine fracture Lateral flail chest Pneumothorax Trauma aortic disruption Diaphragmatic rupture Fracture of Spleen, Kidney and Liver Fracture Pelvis or Acetabulum
Rear impact	Cervical spine fracture
Ejection from vehicle	All
Pedestrian struck by motor vehicle	Head injury Trauma aortic disruption Abdominal visceral injury Fracture Pelvis and/or Lower extremities

Nature of the call

Fall



Mechanism of injury

- Important factors : height and surface
- considered to be a severe fall
 - 20 feet for adult
 - greater than 10 feet for a child under age 15
 - more than two to three times the child's height

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Nature of the call

Penetrating trauma

Mechanism of injury



- *Penetrating Trauma* or injury classified by the velocity, speed of the item that caused the injury.
- **Low-velocity** : eg. Knives, severity depends : area involved, depth of penetration, and angle of penetration
- **Medium-velocity** : handguns and shotguns.
- **Medium and high-velocity** : Bullets

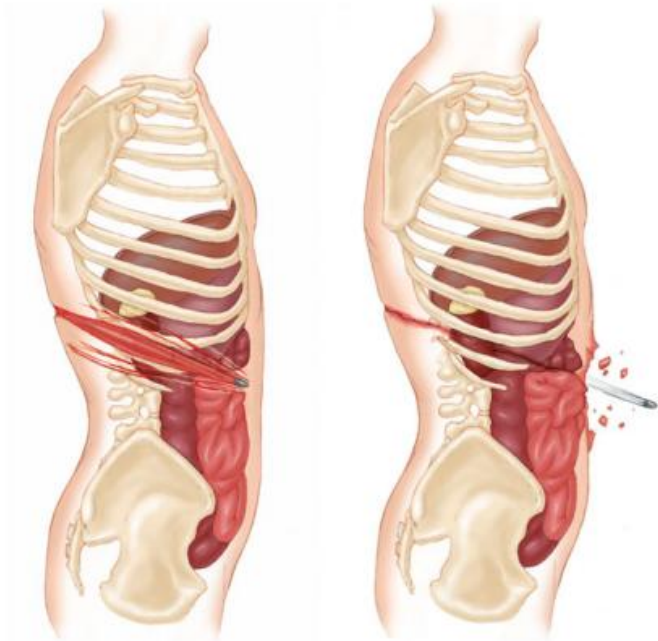
Nature of the call

Penetrating trauma

Mechanism of injury

Bullets cause damage in two ways

1. Damage directly from the projectile depends on
 - Size of bullet
 - Path
2. Pressure-related damage or cavitation



Nature of the call

Blunt-force Trauma

Mechanism of injury



- strikes the body but not penetrate the skin or other body tissues
- skin may appear reddened, bluish coloration (bruise)
- Maintain a high *index of suspicion*

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Number of patients



1. Need versus Resource ?

2. Additional resource ?

Number of patients



จำนวนผู้บาดเจ็บ ใช้ในการประเมินว่า **Need > Resource** หรือไม่ จะต้องใช้แผน ุบัติภัยหมู่หรือปฏิบัติการด้านสาธารณสุขภัยร่วมด้วยหรือไม่



ต้องการความช่วยเหลือ จากหน่วยงานอื่นด้วยหรือไม่ เช่น ทีมกู้ชีพ ตำรวจ พนักงานดับเพลิง หรือเป็นเหตุการณ์นั้นมีสารพิษสารเคมีที่ต้องใช้อุปกรณ์ป้องกันตนเองพิเศษ เป็นต้น

Multiple casualties

- ผู้บาดเจ็บ > 1 คน แต่ไม่เกินความสามารถในการดูแลรักษา
- พิจารณาให้การรักษาแก่ผู้ป่วยที่มีอาการบาดเจ็บที่รุนแรง
คุกคามต่อชีวิตเป็นอันดับแรก

Mass casualties

- **จำนวน**ผู้บาดเจ็บและมีความ**รุนแรงเกินความสามารถ** ในการดูแลรักษาที่มีในขณะนั้น
- พิจารณาให้การรักษาแก่ผู้ป่วยที่มีอาการบาดเจ็บที่มีโอกาสของการ**รอดชีวิตมากที่สุด** และใช้เวลาใช้อุปกรณ์ บุคลากรน้อยที่สุด
เป็นอันดับแรก





AM I Safe ?

Scene safe ?

Nature of the call ?

Many Patient ?

What other resource do I need ?

Initial Assessment_General impression

- Keep the MOI in mind as approach
- Consider whether spinal stabilization will be necessary
- Evaluate AVPU

Primary Assessment_Airway and breathing

- Unconscious : open the airway using the jaw-thrust maneuver.
- Remove FB and suction out blood or vomitus
- Once the airway is clear, assess breathing
- Skin color
- Observe chest wall movement

Primary Assessment_Circulation

- Check radial and carotid pulses, if **no pulse**, begin CPR.
- Skin condition
- Capillary refill
- Significant external bleeding ?

Primary Assessment_Transport decision

- Immediate transport include :
 - Altered mental status
 - Airway or breathing problems
 - Significantly compromised circulation
- If needs immediate transport, continue assessment en route to hospital
- On-scene time should be limited to 10 minutes.

Any Questions

