


Objectives

- Examine recent school shootings
- List components of the Five Ss as they related to MCI management, including
 - define scene safety principles
 - describe START Triage method
 - describe JumpSTART Triage method
- List traumatic injuries associated with school shootings
- Describe treatment of specific injuries
- Review pediatric considerations

School Shootings

- August 1st, 1966
- University of Texas in Austin
- Student climbs bell tower with rifles
- Killing 14, wounding 30
- Some victims more than 500 yards away



School Shootings

- January 29, 1979
- San Diego, CA
- Cleveland Elementary School
- Brenda Spencer shot 11 people
- Killed 2, wounded 9
- 1 PD officer wounded
- 6 hour standoff
- Spencer quoted at time of arrest "I don't like Mondays"



School Shootings

- January 17, 1989
- Stockton, CA
- Patrick Purdy fire bombed his car and entered a playground
- Killed 5 children, wounded 29 with AK-47 (in 1.5 minutes)
- He then committed suicide
- Name of school: Cleveland Elementary



Interesting Note:
Of all shootings, the highest ratio of shot/victim killed involves the use of pump shotguns, not high capacity assault rifles

School Shootings

- Jan 18, 1993
- Grayson, KY
- Scott Pennington walked into English class and shot his teacher in head
- Later shot janitor in abdomen

School Shootings

- February 2, 1996
- Moses Lake, WA
- Barry Loukatis opens fire in Algebra class
- 2 students, 1 teacher killed
- 1 other wounded



School Shootings

- October 1, 1997
- Pearl, MS
- 2 students killed
- 7 wounded
- 16 y/o shooter also accused of killing mother
- He and his friends were said to be outcasts who worshipped satan



School Shootings

- December 1, 1997
- West Paducah, KY
- 3 students killed
- 5 wounded
- Those injured and killed were participating in a prayer circle at Heath HS



School Shootings

- March 24, 1998
- Jonesboro, AK
- Andrew Golden (11) and Mitchell Johnson (13)
- Killed 4 wounded 11 more
- 1 boy pulled fire alarm
- 1 boy lay in wait and began firing during exodus



School Shootings

- May 21, 1998
- Springfield, OR
- Thurston HS
- 2 killed, 22 wounded by Kip Kinkel (15)
- His parents were later found dead in their home



School Shootings

- April 20, 1999 (Anniversary of Hitler's Birthday 1889)
- Littleton, CO
- Columbine High School
- 12 students, both gunmen and 1 teacher killed
- Eric Harris and Dylan Klebold went on over 1 hour shooting spree
- Multiple explosive devices used
- Both shooters committed suicide



School Shootings

- April 16, 2007
- Blacksburg, Virginia
- Virginia Tech
- Cho Seung-Hui
- 33 victims
- Multi-area shooting



School Shootings

- May 17th, 2001
- Ennis, TX
- A student takes a classroom full of students and 1 teacher hostage
- The teacher negotiates the release of all students but 1
- The shooter fires at a TV then turns the gun on himself, fatally wounding himself



But school shootings...

- They really don't affect my community.



Patterns

- Kids often acted with support of peers
- Shooters sometimes goaded into violent act
- Killers often boasted about plans
- Most had PMH of mental disturbance
- Lying
- Blaming others
- Using deception/intimidation
- Lack of empathy
- Exploiting weaknesses
- Overreacting
- Depression/Withdrawal
- Intense dislike of school
- Unusual interest in weapons
- Intense resentment

Risk Factors

- Alienation
- Delinquent Peers
- Male
- Substance abuse (alcohol or other drugs)
- Low/medium intelligence

Columbine Up Close

1122 Lincoln Fire Department

West Metro Fire Department, and Jefferson County Sheriff's Office dispatched to a reported explosion and a grass fire (later found to be a diversion)

The closest engine (13) to the High School was dispatched to the fire investigation

A small fire and unexploded device was found on their arrival at the scene

Columbine Timeline

1119	Shooting and Explosions Begin	1334	East triage sector established
1138	FD Begins detaining fleeing students	1342	Command directs all students to bus supports
1140	FD changes to T-shirt only	1457	West triage sector established
1143	Units advised of explosives in bldg	1522	SWAT enters library finding to patients with self inflicted GSWs
1145	1st patient transferred to ambulance	1537	EMS from all over CO arrive due to TV "sit come"
1152	Sprinkler system activated	1604	LFD cleared by SWAT to enter/shut off sprinkler
1155	1st patient transported to hospital	1645	MD and Medics enter school to pronounce dead*
1157	SWAT covers medics on an evac	1711	CISM team requested
1202	SWAT uses engine to approach school	2240	Bomb detonates during EOD activity
1202	Rescue units "taking fire"	2242	Parking lot declared unsafe (explosives)
1211	Shots still being fired		
1212	Air ambulance lands		
1244	EMS switch to mutual aid frequency		

School Shootings...

- Potential MCIs
 - Many patients
 - Few resources
 - Communication problems
 - New responders
 - Can't use normal procedures
- So how do we manage these? Volunteer?



The Five Ss to Better MCI Management

- Scene Safety
- Size Up
- Send Information
- START Triage
- Set up the Medical Sector

1. Scene Safety

- What does that mean?
 - Hands
- Things you already do every day
- Re-examine what has become routine
- Examine the "Big Picture"
- Avoid "Tunnel vision"

If you see, feel, or imagine danger....stop, re-evaluate and/or retreat to safe area

Threats

OBVIOUS

Hostile Persons
Fire
Explosions
Weapons
HAZMAT
Environmental cues
Dead bodies

HIDDEN

Bombs
Other "booby traps"
Snipers
Friendly person (s)
Animals
Concealed weapons

Threats

Unknown number of shooter(s)

Unknown location of shooter/s

Unknown type of weapons or range

Unknown motive of shooter/s



Threats

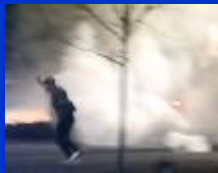
- Fire alarms and activated sprinklers were encountered at Columbine and Springfield
- Multiple fires ignited by explosive devices at Columbine
- Unknown advance of fire in structure
- Smoke filled hallways

Threats

HAZMAT may be present

Substances released for intentional harm by aggressors

PD/SWAT may employ tear gas or pepper spray



Threats

Explosive devices:

- Used as diversion
- Used to harm primary targets
- Used to harm rescuers
- Make shift devices



Propane, Gasoline, CO2, and homemade Naplam were all used at Columbine

Harris's explosive detonation plan for April 20th
Bombs timed to go off in sequence to maximize killing effectiveness
Note times with head count of students seated in upper left corner



Faulty wiring and construction caused many devices to not detonate
There were approximately **488** students in the cafeteria at 11:17 a.m., the time this bomb was set to go off



Explosive Devices Location

13 exploded	Outside
5 exploded	Library
6 exploded	Class/Halls
6 exploded	Cafeteria
2 unexploded	Outside
26 unexploded	Library
14 unexploded	Class/Halls
4 unexploded	Cafeteria
12 unexploded	Klebolds car
1 unexploded	Harris's car
6 unexploded	Klebold's home
2 unexploded	Harris's home

99
total

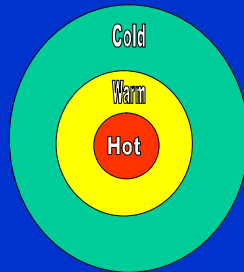
Safety Principles

- 2 In/2 Out
- IDLH atmosphere
- Avoiding "freelancing"
- Tactical movements

Safety Zones

Similar to HAZMAT

- HOT** (Red)
- WARM** (Yellow)
- COLD** (Green)



Hot

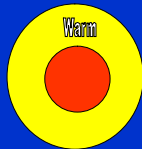
Safety Zones

- Site of active incident
 - Active Shooters
 - Barricaded Subjects
- Threat present
- Specially trained personnel...not YOU!
- Special protective gear
- Number of personnel limited



Safety Zones

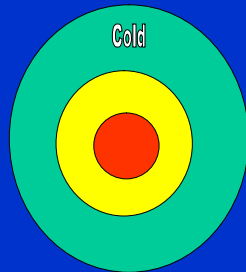
- Surrounds red zone
- Provides scene containment
- Protective gear a must
- BLS
- Decontamination



Safety Zones

Like HAZMAT


- Everything
- Victims evacuated to here
- Triage
- Stabilization
- Treatment
- Contaminated gear shed prior to entering



Tactical Considerations

Avoidance

- Always preferred over confrontation
- Staging
- Wait for clearance into scene
- Maintain safe distance



Tactical Considerations

Tactical Patient Care
 Limited EMS operations in "Hot" zone
 BLS Airway
 BLS Bleeding Control
 (Send your medics for a gatorade!)
 Usually limited to rescue/evacuation
 Specially trained "Tactical Medics"/SWAT medics (could be an EMT-Basic though)
 Specialized equipment and protocol used
 Far greater risks taken than standard EMS operation


Tactical Considerations

Kevlar Vests

ARE NOT "bullet-proof"

Officers who have been shot in vest may have serious underlying injury

Victim may have the "adrenaline rush of their life"



2. Size Up

- Fire responders are very good at this
 - PD and EMS tend to be less so
- A report should include:
 - Where is it/Were you dispatched to an accurate location?
 - What do you see?
 - What is going on?
 - Does it fit?

3. Send Information

- After the initial size up, this is your first, best chance to get...
 - Additional help
 - Specialized help
 - Alert your comrades as to the severity of the call

4. START or JumpSTART Triage

- French for "to sort"
- Goals should be:
 - Do the best for the most
 - Effectively use limited resources
 - Do NOT relocate the disaster

Triage

Other problems at MCI's

Non-local responders, mutual aid
Rescue efforts, finding, counting, sorting patients
Unorganized flow of patients into triage zone
Lack of Pre-planning, joint exercises
Lack of scene to hospital communication (sit-reps)
hospital may need to activate their disaster status
Communication nightmares

Simple
Triage
And
Rapid
Treatment



START

START

- Developed in California in the early 1980's by Hoag Hospital and Newport Beach Fire and Marine (California)
- Rapid approach to triaging large numbers of casualties
- Easy to remember

START

- Initial patient assessment and treatment should take less than 30 seconds for each patient

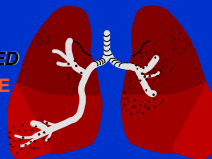
START

- First - clear the walking wounded using verbal instructions.
 - Direct them to the treatment areas for detailed assessment and treatment
 - Tag These as **MINOR**
- Now check your **RPMs**

START

RPM

- **R**espiration's
 - None - Open the Airway
 - Still None? - **DECEASED**
 - Restored? - **IMMEDIATE**
 - Present?
 - Above **30** - **IMMEDIATE**
 - Below **30** - **CHECK PERFUSION**



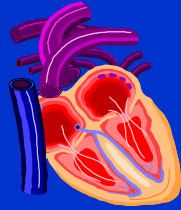
START

RPM

- **Perfusion**

- Radial Pulse Absent
or
Capillary Refill > 2 secs
IMMEDIATE

- Radial Pulse Present
or
Capillary Refill ≤ 2 secs
CHECK MENTAL STATUS



START

RPM

- **Mental Status**

- Can **Not** Follow Simple
Commands (Unconscious or
Altered LOC)
IMMEDIATE

- Can Follow Simple Commands
DELAYED



START

If patient is immediate - priority 1 upon initial assessment, attempt to correct airway blockage or uncontrolled bleeding only before moving on to next patient.

START

- When things get hectic with multiple patients rev up your RPM's.
 - R - Respiration - 30
 - P - Perfusion - 2
 - M - Mental status - CAN do

5. Set up the Medical Sector of Command

- Command is more important than patients
- A bad direction is better than no direction
- MMQB...one again...honestly, it'll happen.

Other issues: Communications

- Robinson Carusoe Syndrome "we're the only people on the island"
- Terminology and procedures vary among organizations
- No established rules for who is responsible for dissemination of info...get yourself a PIO
- People don't realize they have information that others need
- Information needs of other organizations are not understood

Other issues: Overresponse

- MCI=incident that exceeds the available local resources
- All calls, scanners, Ricky Rescues can all lead to overresponse
- Too many resources can greatly complicate a bad situation
- May physically impeded activity at the scene



Pediatric Anatomical Differences



Large head, harder to keep in neutral position, heavier, more prone to injury

Bones softer, easier to bend and fracture

Small nasal and oral airway passages, large tongue

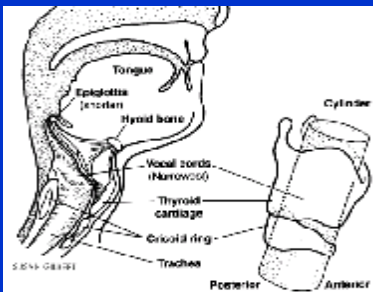
Respiratory muscles fatigue easily in dyspnea, diaphragm is primary muscle for respiration

ABD organs more exposed to trauma

Fontanelles and open sutures are palpable

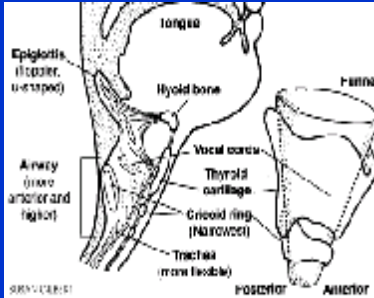
Short neck, shorter, narrower trachea

Adult upper airway



The area at the glottic opening represents the smallest diameter opening in the adult

Pediatric Upper Airway



The subglottic (cricoid ring) area in the infant and child is the smallest opening until about age 8

In addition, the larynx is higher and more anterior in the child sometimes making cord visualization difficult

Size ETT to child's pinky finger

Pediatric Vital Signs

Age	Kg	RR	HR	SBP
>1yr	3-4	30-50	120-160	70-80
2-4	12-16	20-30	100-110	80-95
5-8	18-26	14-20	90-100	90-100
8-12	25-50	12-20	80-100	100-110
>12	>50	12-16	60-90	100-120

Assessment

- ABCs-Cervical Collar-LBB (?)
- LOC
- Airway Compromise
- Sucking Chest (?)
- Pneumothorax
- Circulation-skin temp/moist, color, cap refill
- Focused assessment on visible wounds
- Entrance/Exit
- Anticipate Internal damage
- Distal PMS

Pediatric Shock

Hypotension is a late sign of shock in children

> 30-35% of volume can be lost before s/s develop

> Hypotension is an ominous finding...

It requires

- * aggressive airway,
- * aggressive IV fluid therapy, and
- * boluses of Jet A or diesel to a peds trauma facility

Expose, Expose, Expose

Gun shot wounds can be very small and elusive

Always strip your patient and perform full assessment

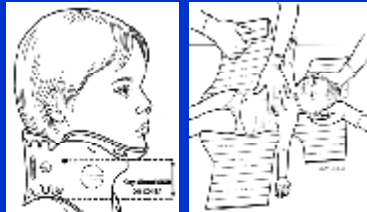
Avoid hypothermia by re-covering patient after exam

HYPOTHERMIA: decreases clotting function
shock will worsen
acidosis will occur
keep patient covered and warm

Spinal Immobilization

C-Spine

- Large head
- Weak neck muscles
- Head hyper-mobile
- Large occiput
- Hyperflexion when immobilized



Questions?
