



**What lurks in the pile...
 safety concerns and things
 to ponder from the good
 Doctor.....**
it's all about the plan for action
 David Miramontes MD FACEP NREMT
 Medical Director
 City of San Antonio Fire Department

**Welcome to
 San Antonio**




San Antonio=Military City

- 1.4 Million People over 460 Square Miles
- 7th Largest City in the US
- Fort Sam Houston-Lackland Brookes City Base and Randolph AFB Camp Bullis.



Death at recycling plant results in \$58K fine

- Metal baler not locked out for repair
- Confine space procedures not followed



Denver Sept 2014

One man was killed and two others were hurt when they were crushed by a shredder...at a metal-recycling plant...

- Large Machinery fell on workers
- Machine Locked out
- One man trapped underneath machinery when it shifted
- Had Previous violations



South Seattle Jan 2007

Fatal Work Injuries 2014

Occupation	Fatal Work Injuries per 100,000 FTE Workers	Number of Fatal Work Injuries
1. Fishers and Related Fishing Workers	121.2	40
2. Logging Workers	102.4	64
3. Aircraft Pilots and Flight Engineers	57.0	72
4. Refuse and Recyclable Material Collectors	41.2	34
5. Roofers	31.8	56
6. Structural Iron and Steel Workers	26.9	16
7. Farmers, Ranchers, and Other Agricultural Managers	25.3	280

OSHA FATAL FOUR

- 4,679 Workers Died in 2014
----Would save 508 Lives Yearly if eliminates such
- **Falls**- 39.9 %
- **Electrocutions** 8.5%
- **Struck By Object** 8.4%
- **Caught in/between Objects** 1.4%


<https://www.osha.gov/oshstats/commonstats.html>

Top 10 cited OSHA violations FY2014

- **Fall protection**, construction (29 CFR 1926.501)
- Hazard communication standard, general industry (29 CFR 1910.1200)
- **Scaffolding**, general requirements, construction (29 CFR 1926.451)
- Respiratory protection, general industry (29 CFR 1910.134)
- **Powered industrial trucks**, general industry (29 CFR 1910.178)
- **Control of hazardous energy (lockout/tagout)**, general industry (29 CFR 1910.147)
- Ladders, construction (29 CFR 1926.1053)
- **Electrical, wiring methods, components and equipment**, general industry (29 CFR 1910.305)
- **Machinery and Machine Guarding**, general requirements (29 CFR 1910.212)
- **Electrical systems design, general requirements**, general industry (29 CFR 1910.303)

So what are your hazards?

- Crush or Entrapment in Machinery
- Electrocution
- Machinery Accidents
- Slips trips, Falls
- Vehicle accidents




Toledo Ohio- My former home

- Toledo- North West Ohio
- 68th largest city US
- 287,000 Population
- 436,000 Lucas County



“Unit 51 Respond for the Industrial Accident.....”

- Man in late 20's
- Scrap Metal flew out of Baler to his FACE
- Jaw destroyed
- Extensive Oral Trauma
- Awake
- Trying to speak !!
- Rapid Airway compromise
- Medications Given
- Intubated on scene.
- (don't ask what we had to do)

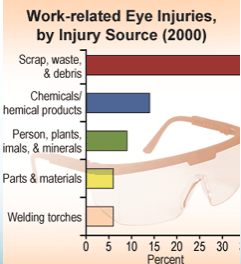


Hand Injuries

- Minor looking wounds=Disaster
- Nerve or Tendon injury
- Urgent Extensive surgery required
- Long complicated rehab
- Complications



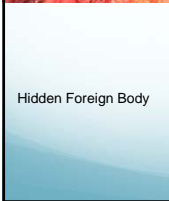
Eye Injuries



3 out of 5 eye injuries can be prevented with proper goggles



Obvious injury.....



EYE BALLS ARE IMPORTANT

PROTECTION

IRRIGATION



GLASSES GOGGLES OR FACE SHIELDS ONLY WORK... WHEN WORN



Trips and Falls



- Leading cause of unintentional mortality
- 43% Fatal falls involve ladders
- 81% fall injuries involve ladder
- Plan use of scaffolds, aerial lifts or railed walkways
- Use Fall Prevention harness over dangerous machinery, > 24'ladders, aerial lifts or elevated fork lifts.

CDC MMWR April 25, 2014 / 63(16);341-346

Safety Culture

- It starts at the top and includes all staff, temporary workers and visitors
- All staff should be enabled and encouraged to stop unsafe actions !!
- Do supervisors get more "incentives" or positive feedback for productivity or for safe operations ?
- Regular safety meetings ?
- Supervisor rounding for PPE spot checks and safety evals.



What is your Head to Toe Protection Plan ?

- Head- Hard Hat/ Helmet with Face shield
- Eye Protection-goggles versus simple glasses.
- Hearing protection
- Clothing
- Gloves
- Boots with proper toe and shank requirements

Rounding For Safety



Nice Cotter Pin !!!!

- Machinery Checks
- PPE rounds
- Ensuring clearances and safety zones around operating machinery
- Guards and screens in place ?
- Lockouts confirmed by supervisor before work started on any machinery

An Accident Happens

- Stop Machinery
- Call for HELP !!!!
- Cut off Power-and do Lockout
- Call 911
- Provide rescue if SAFE
- Provide first aid—
 - STOP BLEEDING
 - Rescue Breathing (electrocution)
 - Hands Only CPR
 - If Fall, do not move neck/head.



Calling 911

- They will ask for address and callback numbers and ask you to REPEAT
- "Tell me what happened exactly"
- Will then ask medical information
- If Security or Dispatch is calling and not with patient --- have someone call 911 again from patient side
- Follow Dispatcher Instructions
- Send someone to the road to Flag down and direct units into the exact location.



Is the Location Marked ?



- Plan for Entrance into the location
- Have all **Gates clearly marked**
- Where are the Fire Hydrants?
- Where is the Evacuation Muster point for staff?

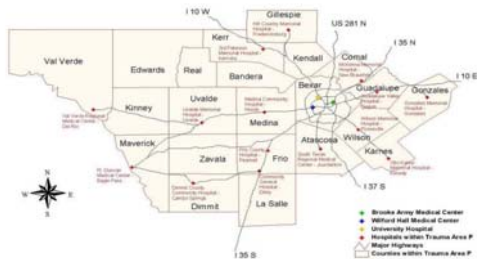
Become part of Your System

- Fire Department
- Hazmat
- Police
- Vector Control
- Water Quality
- Local Medical Care
 - Hand /Burn/Trauma
- Occupational Health
- Rehabilitation Resources






Regional Stroke, STEMI Trauma PI
 Disaster Preparedness
 Clinical Informatics
 Remote Trauma Outcomes Research
 Network (**RemTORN**)




Thank You



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