



Parker Cadet Squadron

Safety Stand Down Items:

Orientation Flight ORM

Review

21 May 09



Orientation Flight ORM



- Purpose - ORM Reivew for O-flight events
- ORM Process
- Orientation Flight ORM:
 - Hazards
 - Risks
 - Risk Control Measures
 - Control Decisions
 - Risk Control Implementation



Purpose: Basic ORM



CAPR 62-1

CIVIL AIR PATROL SAFETY RESPONSIBILITIES AND PROCEDURES

3d(1): *At least once annually, Operational Risk Management (ORM) will be discussed during a unit safety meeting.*



Basic ORM Process



- The Six Steps of the ORM Process
 1. Identify the hazards
 2. Assess the risks
 3. Analyze the risk control measures
 4. Make control decisions
 5. Risk control implementation
 6. Supervise and review



ORM: Orientation Flights



- Assumptions:
 - Evaluate risks we can affect (no worries about asteroids)
 - FAA Flight Safety, ATC, and maintenance rules outside our area of expertise
 - ORM control measures have to be achievable (\$\$, expertise, authorities)
 - Mission still has to be accomplished



Basic ORM Process



Risk Assessment Matrix

		Probability				
		Frequent	Likely	Occasional	Seldom	Unlikely
S E V E R E I T Y	Catastrophic	Extremely High				
	Critical		High			
	Moderate		Medium			
	Negligible		Low			



Basic ORM Process



LEVELS OF SEVERITY

- **Catastrophic** – Complete mission failure, death, or loss of system.
- **Critical** – Major mission degradation, severe injury, occupational illness or major system damage.
- **Moderate** – Minor mission degradation, injury, minor occupational illness, or minor system damage.
- **Negligible** – Less than minor mission degradation, injury, occupational illness, or minor system damage.



Basic ORM Process



LEVELS OF PROBABILITY

- **Frequent** (Individual/Item) – Occurs often in career/equipment service life. Everyone exposed. Continuously experienced.
- **Likely** (Individual/Item) – Occurs several times in career/equipment service life. All members exposed. Occurs frequently.
- **Occasional** (Individual/Item) – Occurs sometime in career/equipment service life. All members exposed. Occurs sporadically, or several times in inventory/service life.



Basic ORM Process



LEVELS OF PROBABILITY

- **Seldom** (Individual/Item) – Possible to occur in career/equipment service life. All members exposed. Remote chance of occurrence; expected to occur sometime in inventory service life.
- **Unlikely** (Individual/Item) – Can assume will not occur in career/equipment service life. All members exposed. Possible, but improbable; occurs only very rarely.



Brainstorm: Hazards in O-Flights



Hazards	Severity	Probability
Walking into props	Catastrophic	Seldom
Hit by aircraft (e.g. cadet hit by moving aircraft)	Catastrophic/Critical	Occasional/Seldom
Aircraft damaged in ground handling	Catastrophic/Critical	Occasional
Injuries: aircraft doors, sharp edges (flaps)	Critical/Moderate	Occasional
Noise Hazards	Moderate	Frequent
Sunburn	Moderate	Frequent
Falls, slips, trips	Critical/Moderate	Likely
Bodily Fluids	Moderate	Frequent
Tie Down strikes	Critical/Moderate	Likely
Windblown objects in eyes	Critical/Moderate	Frequent
Tow rope strikes	Catastrophic/Critical	Seldom



Brainstorm: Risks in O-Flights



Hazards	Severity	Probability	Risk
Walking into props	Catastrophic	Seldom	High
Hit by aircraft (e.g. cadet hit by moving aircraft)	Catastrophic/Critical	Occasional/Seldom	High
Aircraft damaged in ground handling	Catastrophic/Critical	Occasional	High
Injuries: aircraft doors, sharp edges (flaps)	Critical/Moderate	Occasional	High
Noise Hazards	Moderate	Frequent	High
Sunburn	Moderate	Frequent	High
Falls, slips, trips	Critical/Moderate	Likely	Medium
Bodily Fluids	Moderate	Frequent	High
Tie Down strikes	Critical/Moderate	Likely	Medium
Windblown objects in eyes	Critical/Moderate	Frequent	High
Tow rope strikes	Catastrophic/Critical	Seldom	High



Brainstorm: Risk Controls in O-Flights



Hazards	Risk	Control Measures
Walking into props	High	Safety Brief
Hit by aircraft (e.g. cadet hit by moving aircraft)	High	Safety Brief – Personal responsibility
Aircraft damaged in ground handling	High	Wing Walker and towing procedures
Injuries: aircraft doors, sharp edges (flaps)	High	Bring gloves, watch hands around aircraft
Noise Hazards	High	Bring ear plugs
Sunburn	High	Bring sunscreen, sunglasses
Falls, slips, trips	Medium	Proper footgear, watch for ground hazards
Bodily Fluids	High	Cadets provide Barf Bag
Tie Down strikes	Medium	Be aware of others, handle ropes slowly
Windblown objects in eyes	High	Wear sunglasses
Tow rope strikes	High	Set safety zones on flight line (stay behind fences at Boulder airport)



Control Decisions



- Safety Briefing for O-Flights
 - Props
 - Slips, falls, & trips
 - Tie Downs
- Required Items:
 - Add: ear plugs, sunglasses, sun screen (glider flights)



Summary: Orientation Flight ORM



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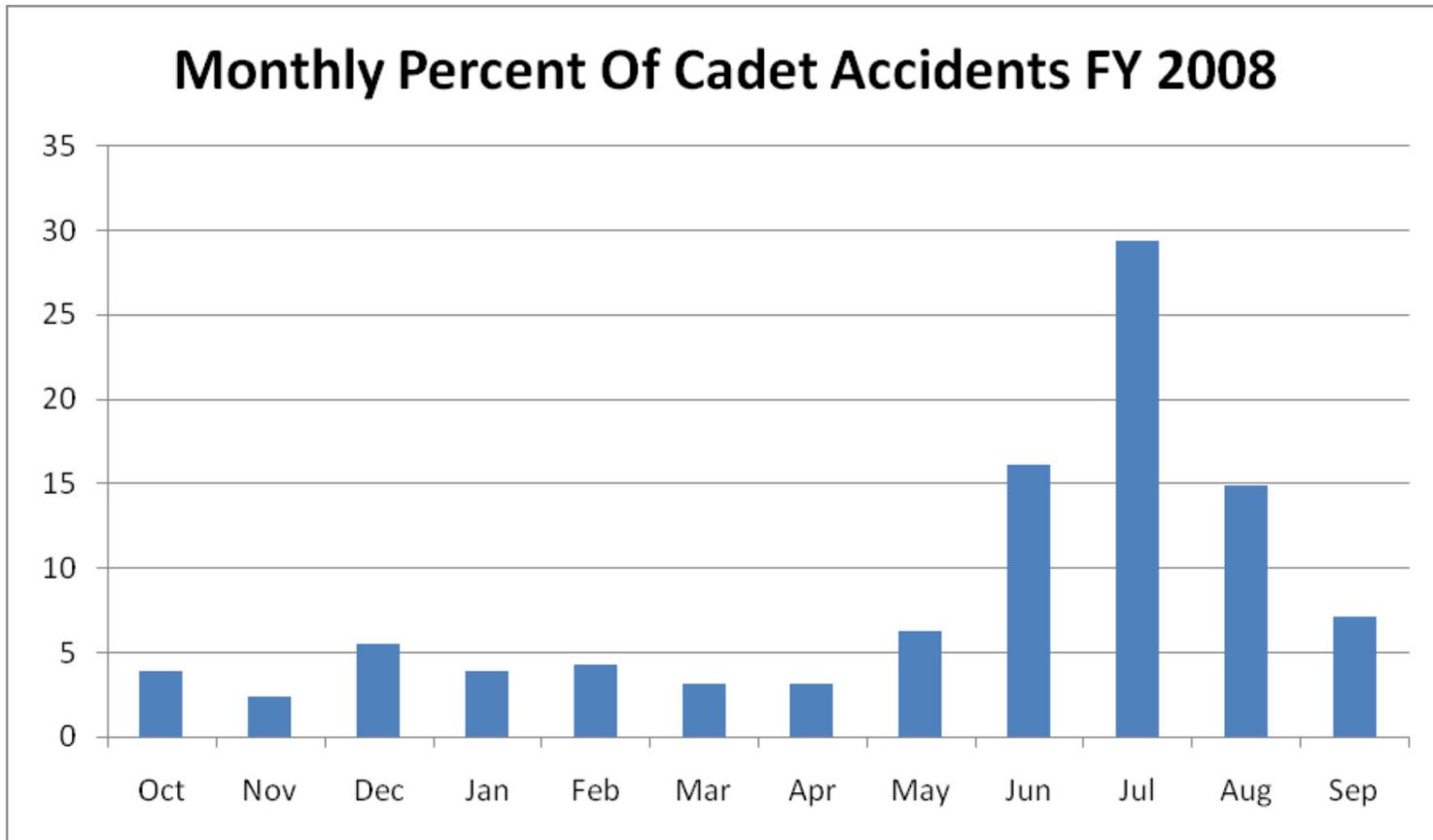
Parker Cadet Squadron

Safety Stand Down Items:

Bodily Injury ORM Look



Trends in Cadet Injuries



Total cadet accidents reported on Forms 78 for FY08 into monthly percentages: Sentinel, May 09, p. 3



Encampment Cadet Injuries: Examples



Some of the reasons given for these accidents are:

- Locked knees in formation, fell out
- Tent collapsed
- Fell out of bunk
- Tripped and sprained ankle and broke collarbone during PT, sprained wrist during volleyball
- Reinjured a previous injury
- Blisters from poorly fitted boots
- Dust in eye from helicopter
- Allergic reaction to grass, weeds, insect bites
- Dehydration
- Homesickness, stress anxiety



Review of Nation-wide CAP Injury Reports: May 2008 - Apr 2009 Sentinel Magazine

THE SENTINEL NEWSLETTER

THE SENTINEL
OFFICIAL SAFETY NEWSLETTER OF CIVIL AIR PATROL

2009	2008	2007	2006
Jan	Jan	Jan	Jan
Feb	Feb	Feb	Feb
	Mar	Mar	Mar
Mar_Apr	Apr	Apr	Apr
May	May	May	May
	Jun	Jun	Jun
	Jul	Jul	Jul
	Aug	Aug	Aug
	Sep	Sep	Sep
	Oct	Oct	Oct
		Nov	Nov
	Nov_Dec	Dec	Dec

http://members.gocivilairpatrol.com/safety/the_sentinel_newsletter.cfm



Injury Summaries:



May 2008:

- SM received water burn when reaching to turn off burner.
- Cadet pushed hard on exit door and cut elbow.
- Cadet passed out in formation and required stitches.

June 2008:

- SM slipped on wet grass and broke small bones in leg.
- Cadet broke right middle finger while playing a "capture the flag" game.
- Cadet injured wrist in a fall during volleyball game.

July 2008:

- Cadet slipped and fell.
- Cadet fainted while standing at attention during inspection.

Injury Summary.



August 2008:

- SM felt intense pain in her right knee causing her to fall.
- Cadet cut hand on thorn while performing litter carry.
- Cadet tore tissue in his left knee and scraped his left elbow while attempting to cross over a row of chairs.
- Cadet fell off top bunk in his sleep.
- Cadet on the hand over hand monkey bars dropped 48" and fractured her left wrist.
- Cadet pulled chest muscle during PT.
- Cadet presented with pain in shoulder after attempting a pull up.
- Cadet repositioning a golf cart struck a second cadet.
- SM spilled hot water from the pan onto her left ankle.



Injury Summaries:



•September 08:

- SM pinched finger in door
- Cadet pedestrian seriously injured when struck by a non-CAP ATV; driver of ATV than struck power pole guy wire
- Cadet fractured collarbone while running
- Cadet tore ankle ligament – team sports
- Cadet fractured tibia on obstacle course
- Cadet fractured right hand while playing Frisbee
- SM had spasm and difficulty breathing
- Cadet hyper extended wrist while playing Frisbee
- SM reached in her bag and was bitten by a poisonous spider
- Cadet had allergic reaction to weed and grasses
- Cadet hit back of head on middle of top bunk
- Cadet extremely dehydrated
- Cadet fractured collarbone while playing volley ball
- Cadet heard her knee “pop” and it began hurting
- SM bitten on the upper rear thigh by dog
- Cadet skinned knee during free time



Injury Summaries:



Oct 08:

- Cadet cut left hand opening an "MRE".
- Cadet struck above right ankle by knife.
- SM slipped and fell on dead tree injuring his chest.
- SM eye scratched by a tree limb.
- Top rail of fence fell on cadet's back
- Cadet fell off top bunk.
- Cadet pushed on glass door and cut arm.



Injury Summaries:



Nov-Dec 08:

- Cadet was running and fell on arm dislocating left elbow
- SM twisted ankle while walking across a parking lot resulting in sprained left knee and left rotator cuff, as well as abrasions to her left elbow
- Cadet fainted, fell face down and split open chin requiring stitches
- Cadet complained of shortness of breath and showed some signs of possible heat stroke
- Cadet suffered pulled ligament/muscle in left hip and upper thigh during basketball game
- Cadet complained of chest pains and general weakness
- Cadet dislocated kneecap during tent setup
- SM exiting tent tripped and fell on her left wrist resulting in non-displaced FX
- SM stung by a hornet with allergic reaction
- SM tripped in parking lot and cut forehead, both palms and nose



Injury Summaries: Jan & Feb 2009 Sentinel



January:

- Cadet did a back flip off pool edge and struck pool edge with front teeth
- Cadet injured finger trying to catch a football
- Senior member injured by falling crowbar
- Cadet injured shoulder doing push-ups
- Cadet sitting outside during ground team training, leaned forward and received foreign object in nostril

February:

- Cadet had eye irritation from dirt between contact lens and eye
- Cadet received bloody nose playing Frisbee
- Cadet cut finger with knife while opening MRE
- Cadet split lip and fractured tooth after hitting bleachers while playing basketball



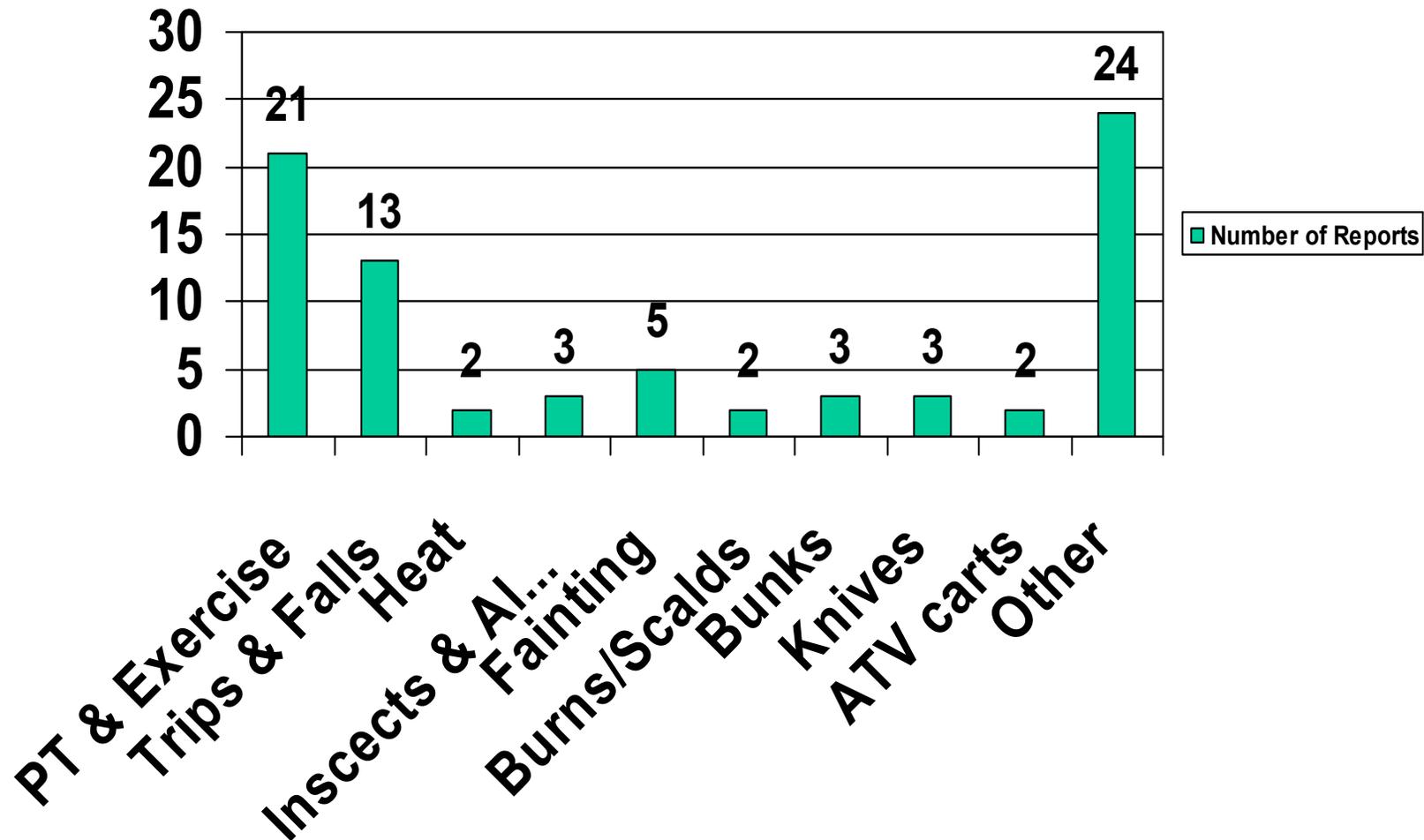
Injury Summaries: Mar-Apr 09 Sentinel



- A branch scratched cadet's eye
- Cadet injured left knee during PT
- Cadet became car sick
- Cadet had difficulty breathing
- Cadet fainted during meeting
- Cadet injured shoulder doing push-ups
- Cadet dizzy & leg cramps
- Cadet slipped on ice, injured back
- Cadet slipped on ice, twisted knee
- Cadet tripped on clothing exiting van
- Cadet sprained ankle dancing
- Three cadets sick during or after PT
- SM tripped, cut his face and fell on wrist
- SM slipped on ice in parking lot
- SM tripped on expansion joint at airport



76 Injury Summaries: May 2008 - Apr 2009





Bottom Line: Injury Trends and ORM



- PT:
 - Causes: existing injuries, objects in play (e.g. frisbees), hitting object, running injuries
 - Remedies: know your limits, look for Cat 2 - 4 cadets, warm-up, “Eye on the Ball”, SA
- Trips & Falls:
 - Causes: obstructions, slick surfaces
 - Remedies: SA (Object Avoidance), look for ice & snow
- Fainting: Formations, time limits, heat stress
 - Causes: environment, prolonged formations, locked knees
 - Remedies: “Knock it Off” in high heat, limit formation standing times, UNLOCK knees, Cadets need to know their fainting onset symptoms
- Bivouac Safety: Insects, allergies, knives



Bottom Line: Injury Trends and ORM



- Bivouac Safety: Insects
 - Causes: Attractants, putting fingers in insect areas, triggering defense responses
 - Remedies: clean bivouac area, DEET, watch where you stick your hands, be aware of insect swarms (hornets, etc)
- Bivouac Safety: Allergies:
 - Causes: environment
 - Remedies: Identify allergies, know onset symptoms, “Sound Off”
- Bivouac Safety: knives:
 - Causes: fingers/body in “cutting zone”, horseplay, large knives, dull knives
 - Remedies: Keep your “cutting zone” clear, no horseplay, small lockblades are best



Additional Slides



Past Year - 2007



“Out of 194 Bodily Injuries (BI) in 2007, 8 were senior members. This leaves 186 cadets with BIs. The leading cause of BIs for cadets (86) was heat related, i.e., dehydration, nausea, headaches, vomiting and fainting.”

-- Sentinel, Feb 08, p.1