MAIB

THE MARINE ACCIDENT INVESTIGATION BRANCH

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Chief Inspector of Marine Accidents

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We are all familiar with this…..

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Motion induced injuries

Characteristics

- Boat impacts water heavily as a result of travelling too fast in prevailing conditions, or deliberate wave / wake jumping.

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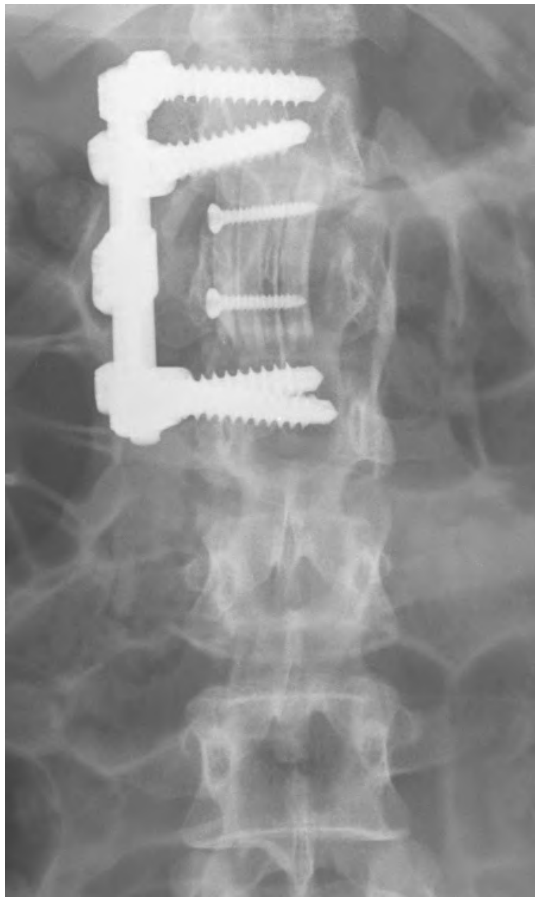
Passengers in unsuitable seating suffer compression fractures to the lower spine (L1-L3). Younger passengers generally recover, but older passengers and those with pre-existing spinal conditions can be permanently disabled.

X-Ray

CT Scans



Repair

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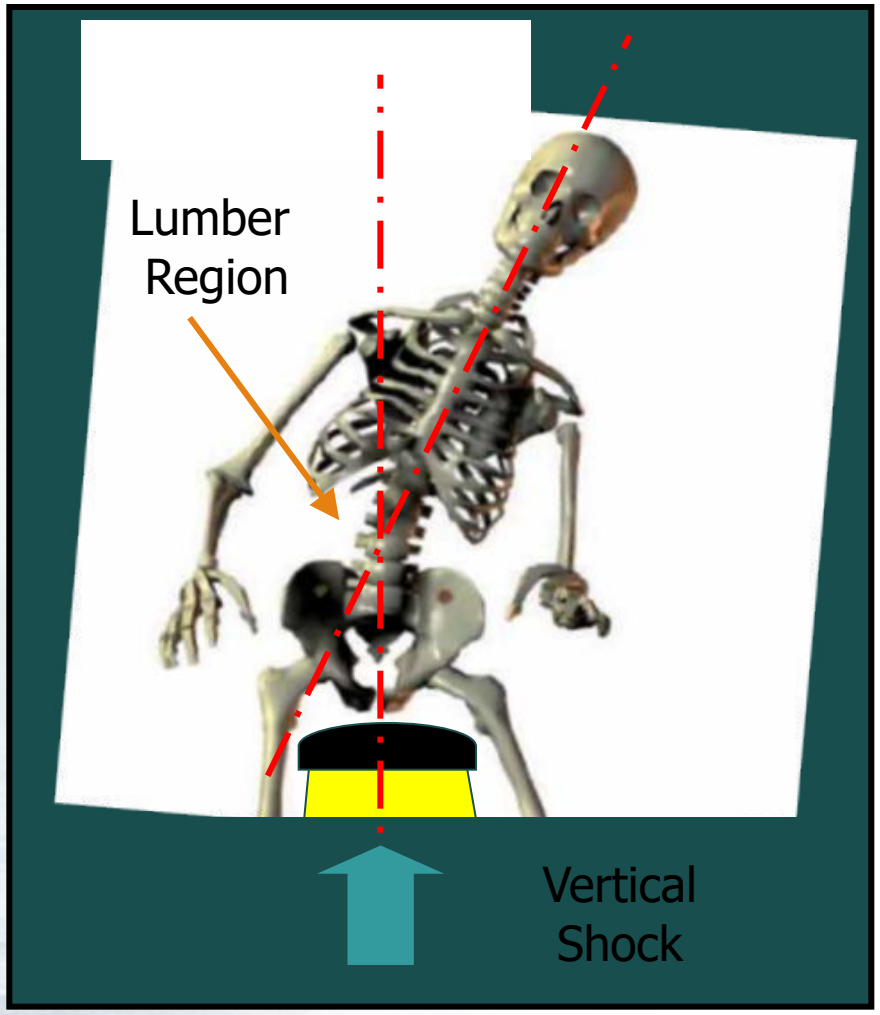
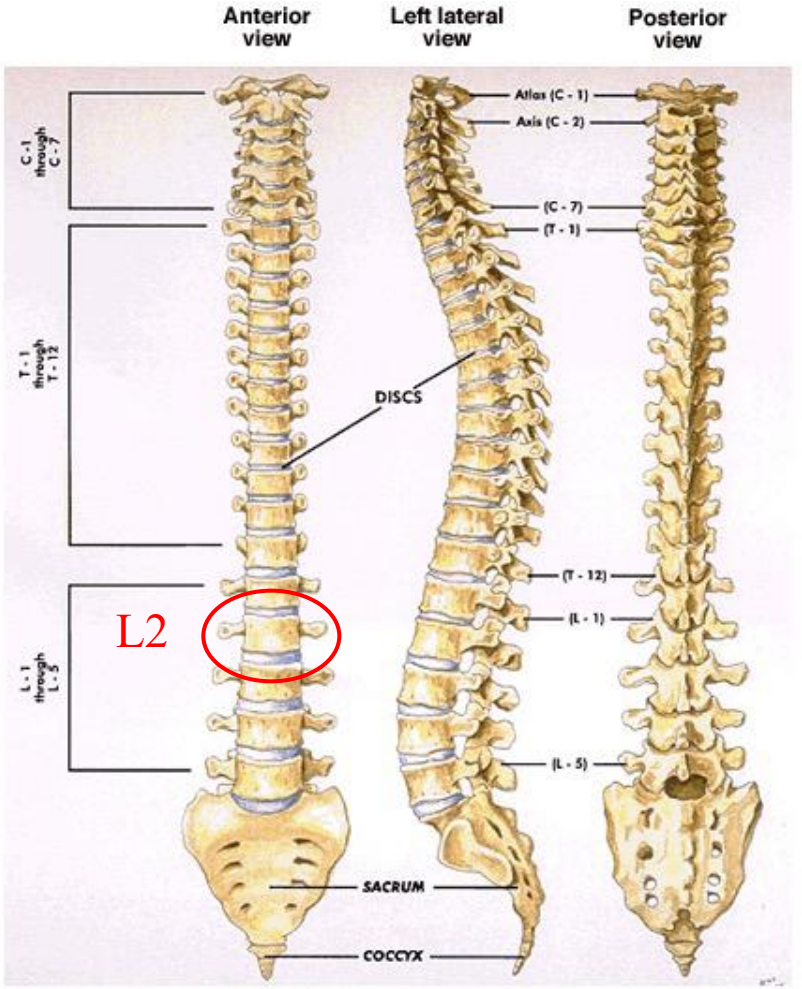
Mechanism of Injury





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Falling overboard

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Falling overboard

Characteristics

- Passenger falls or is ejected from the boat due to violent motion in prevailing sea state, wave wash-over, slamming, spin-out / hook.

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Passengers get wet and suffer minor bruising / abrasion UNLESS hit by returning boat, when head and upper body injuries most likely, but all parts of the body can be impacted. PIW hit by fast moving propellors likely to suffer severe injuries or death.

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Mk 10 Gecko Helmet

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Side Impact Collision

Osprey I & II – low speed collision

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Osprey I & II – low speed collision, 19/7/2016

Victim - 45 yo Female

2 broken collar bones
5 broken ribs
Punctured lung
Laceration and bruising to back & torso

Induced coma for 3 weeks

Permanent damage to sight in both eyes

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Side impact collision

Characteristics:

- Impacting craft rides up over the other vessel and at higher speed can completely cross it.
- Passengers in the impacted craft can suffer upper body and head injuries, including death.

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Head-on collision with a stationary object

Characteristics

- Impacting vessel either rides up and potentially over the stationary object, and / or suffers rapid deceleration either from impact or loss of power.
- Passengers are thrown forward into the craft's structure and can be ejected from the craft over the bow.
- Passenger injuries are consistent with road traffic head-on collisions: head and facial injuries, impact injuries to upper torso and upper limbs. Injuries can result in death.

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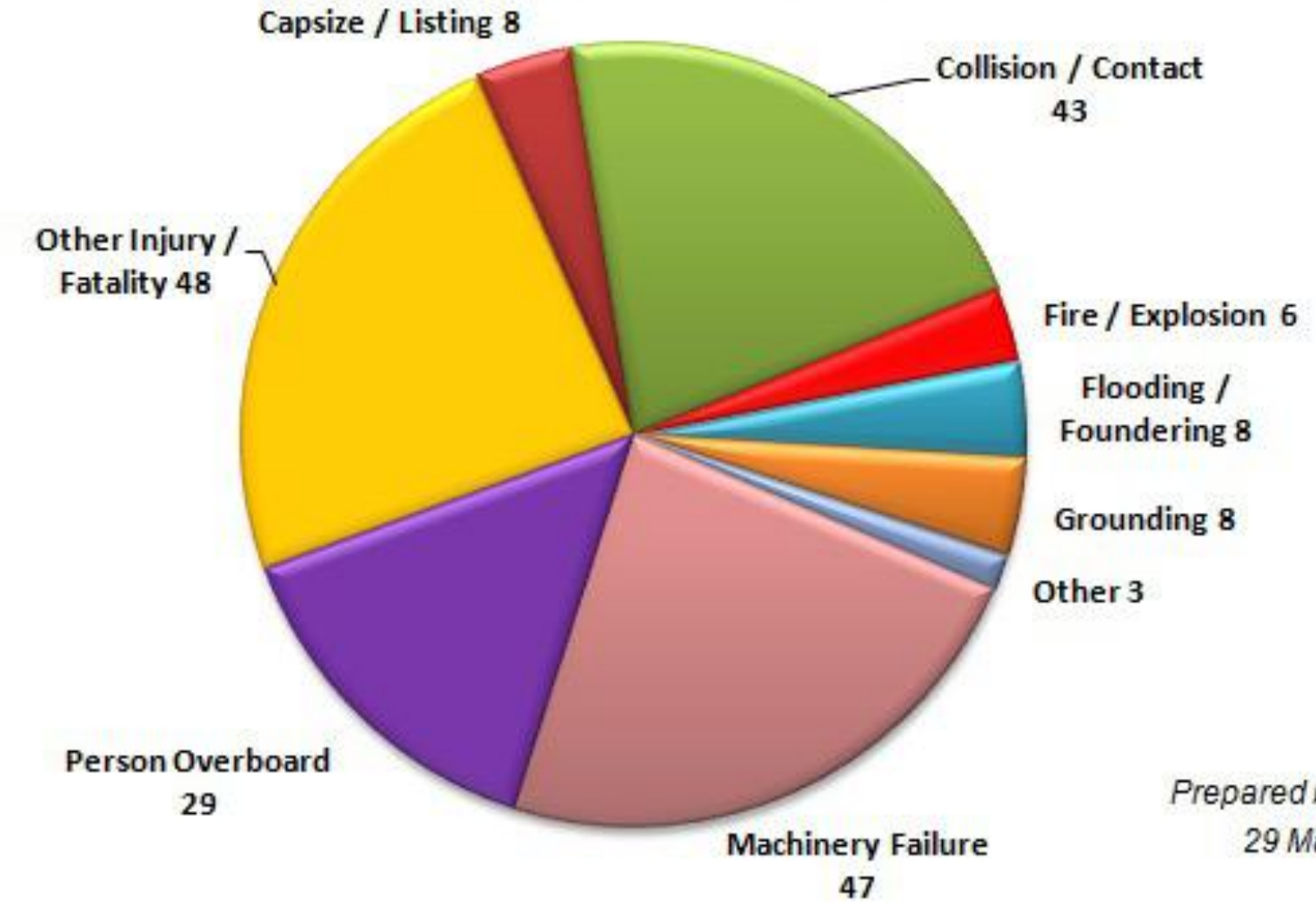
Accidents to RIBs reported to MAIB 2006 to 2011 (200)



Prepared by MAIB
29 May 2013

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Conclusions

- Passengers and crew in small high-speed craft are very vulnerable to:
  - Ejection from the craft
  - Motion-induced injury
  - Injury resulting from collisions with other craft and fixed objects
- Suspension seats, if fitted reduce the risks of motion-induced injury but, otherwise, current designs provide little protection to passengers and crew.

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The future is in your hands

IT SHOULDN'T TAKE AN ACT OF CONGRESS TO MAKE ~~CARS~~ SAFE.

Volvo was committed to safety long before it became mandatory.

In 1956, for example, we installed padded dashboards: 12 years before the government insisted on them.

In 1959, Volvo became the first mass-produced car in the world with safety belts as standard equipment. Nine years later all cars had safety belts, inspired by Federal regulations.

We don't just settle for the legal minimum, either:

The law says all cars must have two brake circuits. Volvos have two *triangular* circuits, each controlling three wheels. So if one circuit fails, you still have about 80% of your braking power.

Volvos also have many safety features not required by law:

Like front and rear ends which absorb the impact of collisions. Four-wheel disc brakes with a pressure-proportioning valve to reduce the chances of rear-wheel lock-up. Child-proof rear doors. Rear window defrosters.

Now who would you rather buy a car from?

A company that builds a safe car because someone else made them do it?

Or a company that builds a safe car because their conscience made them do it?

VOLVO

Boats

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