

# Admissions with Spinal Injuries from water-related activities

The Royal Perth Hospital Trauma Registry (RPH-TR) has collected and reported on injury data since August 1994. It contributes to a State Trauma Registry database, combining data from all Perth tertiary hospitals, SJoG Midland and Joondalup Health Campus.

Included on the RPH-TR are all trauma patients presenting to RPH for treatment within seven days of their injury and who were hospitalised for >24hrs, as well as all trauma-related deaths regardless of hospital length of stay.

Injuries are categorised into Minor (Injury Severity Score (ISS) <13); and Major (ISS >12)

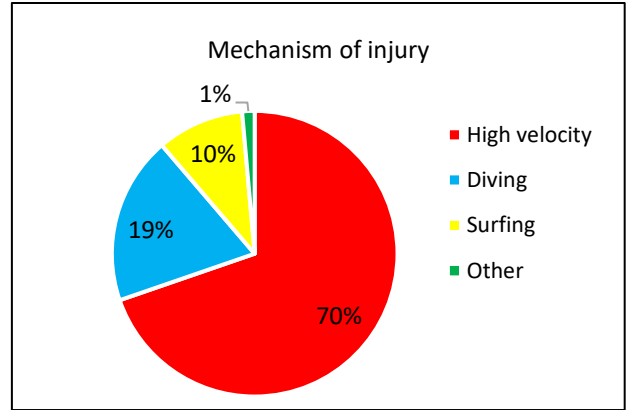
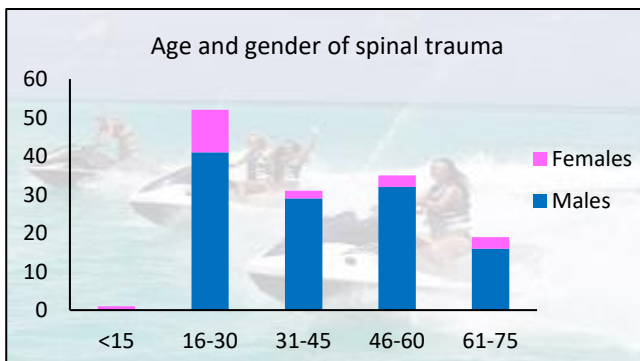
From 2013 to 2022, 142 patients were admitted with major trauma, with spinal injuries, as a result of water-related activities. Most patients were admitted during the summer months, peaking in December and January, when many people take holidays and the weather is warmer.

Of the 142 spinal injured patients:

- 120 (84.5%) were male
- 22 (15.5%) were female
- 4 (2.8%) were international tourists

Ages ranged from 15 - 74 years

- 52 (36.6%) aged 16-30 years was the largest age group



All 142 patients sustained spinal injuries due to multiple trauma mechanisms, with 97 of those (68.3%) occurring at the beach and in the ocean

- 99 (69.7%) were due to collisions with sandbars, dumping by waves and high velocity activities including boats, jet-skis, water-skiing, wakeboarding, kite surfing and on "biscuits".
- 27 (19%) were due to diving into pools, lakes, ponds, rivers, waterfalls and off jetties
- 14 (9.9%) were surf-related

Alcohol and other drugs play a part in these injuries:

- 24 (19.7%) patients had documented consumption of alcohol and/or drugs:
  - 22 (91.7%) of these were male
  - 11 (39.3%) of these were as a result of diving
  - 14 (50%) were under 30 years of age

All 142 patients sustained major trauma with an Injury Severity Score ranging from 13 to 75. They had a median ISS of 13.5 and had an average length of stay of 10.5 days.

- 86 patients (60.6%) were discharged directly home from RPH.

Often when it comes to water-related injuries, spinally injured patients are usually young males, who are often intoxicated with alcohol and undertaking water activities such as diving. However, this cohort also illustrates that high velocity activities on WA beaches can carry a significant risk of spinal injury regardless of age – a fact which the unsuspecting tourist may not appreciate. In addition, people over the age of 40 often have spinal degenerative changes, which may make them more susceptible to sustaining significant spinal cord injury when participating in water related activities.