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What is the nature of hang gliding injuries in Australia?

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Although research pertaining to aircraft design, environmental flight conditions and regulations governing hang gliding is abundant, there is a paucity of research identifying the type of injuries that occur in the sport or when during flight the injuries occur. As an understanding of the nature of hang gliding injuries is vital to developing injury prevention initiatives, this study aimed to determine the scope of hang gliding injuries in Australia. All Accident and Incident Report Forms submitted to the Hang Gliding Federation of Australia since 1991 were analysed. Chi-Square analysis revealed that of all the accidents and incidents reported, significantly ($p < 0.05$) more incidents occurred during landing (44%) compared to in-flight (29%) or launch (27%) manoeuvres with injuries being reported in 62% of incidents. Consistent with the hang gliding pilot gender ratio, significantly more reports were filed by males (90%) compared to females (10%). Surprisingly, there was no difference in pilot certification with a similar number of reports submitted by pilots at restricted (27%), advanced (26%), student (20%), or intermediate (20%) classification. Of the injuries reported, fractures were the most common (61%) followed by substantial bruising (26%), lacerations (16%), abrasions (10%), concussions (7%), sprains/strains (7%) and fatalities (5%). The most commonly injured body part was the upper limb (41%) followed by the lower limb (34%), head/face (22%), spine (15%) and torso (11%). It was concluded that a biomechanical analysis of hang gliding landing strategies should be initiated as the first step in developing an injury prevention program to reduce injury risk in hang gliding.