

Activity 2.4

Analysing the introductions in research articles (continued)

Read the introduction to the research article ‘Analysis of All Terrain Vehicle Crash Mechanisms’ available on the main NTULearn course site, and answer the following questions.

1. In this introduction, is there a progression from general to specific when providing background information? Discuss.
2. Underline the gap, objective and scope. Is the approach to these components different from the previous article? Discuss.

Analysis of All Terrain Vehicle Crash Mechanisms

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1. INTRODUCTION

All terrain vehicle (ATV) crashes are becoming more prevalent and leading to an increased number of preventable childhood injuries. ATVs are widely used for recreation, farming, and utility purposes, with 6.2 million 4-wheeled ATVs in use in 2003 [6]. ATVs range in size from youth ATVs with a 90cc engine to adult ATVs with up to 800cc engines. These machines can reach speeds up to 75 mph. The wide variety and manufacturing standards for ATVs create problems for lawmakers and owners.

Children account for almost a third of all ATV related deaths. With injuries mounting, as evidenced by children under 16 years old accounting for 40,400 of a total 136,700 ATV-related injuries in 2005, it is clear that the devastation and risk of injury associated with ATVs is increasing [3]. Youth under 16 years are nearly four times

more likely than ATV operators over 16 years to experience an injury requiring emergency department treatment [4]. However, in West Virginia higher annual ATV death rates occurred among males, persons aged 10--17 years [2]. In Arkansas, adolescent females have the highest ATV injury death rate of any state and the fifth highest for adolescent males.

In 2001, 97% of children under 16 years with ATV-related injuries were operating ATVs larger than the manufacturer's recommendations [1]. Statistics have shown that 45% of crashes are the result of the machine flipping or turning over, with 43% of those turning over lateral (side to side) and 57% longitudinal (front to rear) [5]. Since 45% of crashes are the result of a turnover, numerous machines were tested in hopes of understanding the engineering issues behind turnover crashes.