

Identifying injury risks associated with underground coal mining equipment

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Project Objectives

- Identify injury risks associated with equipment
- Identify existing controls
- Identify potential controls for uncontrolled risks
- Facilitate communication between manufacturers and mines

Progress

- Analysis equipment related injury narratives from NSW
- Visits to 14 NSW and Qld sites to document hazards and controls
- Visits to manufacturers

Equipment related injuries

Equipment	NSW(03-05) N=4169
Continuous Miner	447 (11%)
Scoop/LHD	232 (6%)
Shuttle Car	140 (3%)
Transport	140 (3%)

Analysis examples

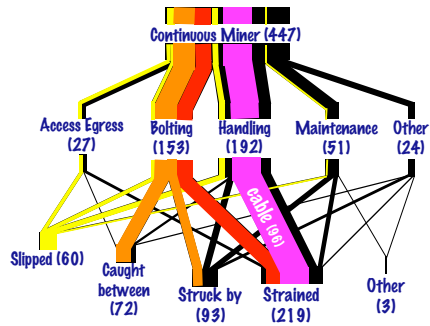
WHILE GETTING BOX OF CHEMICALS HE SLIPPED OFF STEP AT THE REAR OF ABM WORK PLATFORM JARRING HIS LOWER & UPPER BACK WHEN HE HIT THE GROUND

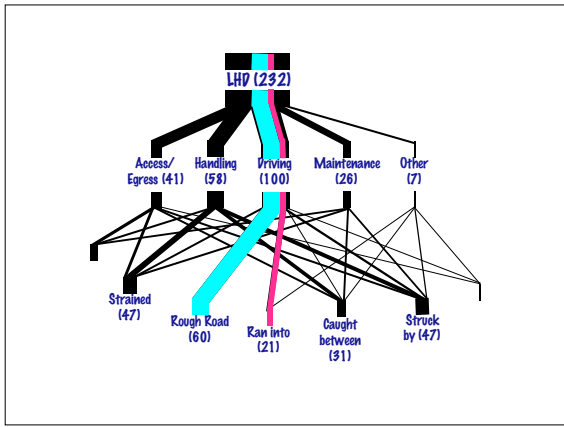
= Continuous miner : Handling : Slipped off

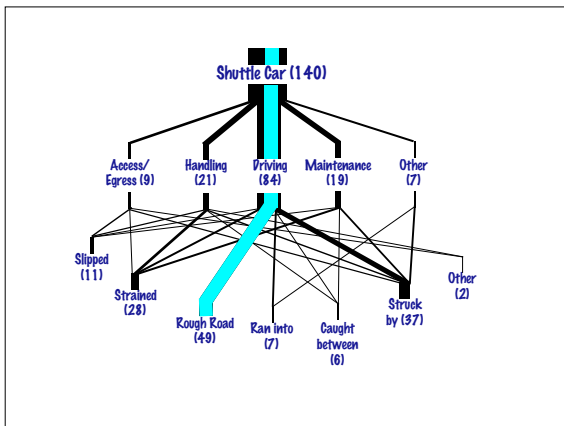
WHILE HE WAS A PASSENGER IN THE TRANSPORTER ON THE TRAVEL ROAD THE VEHICLE HIT A LARGE POT HOLE STRAINING HIS NECK SHOULDERS & BACK

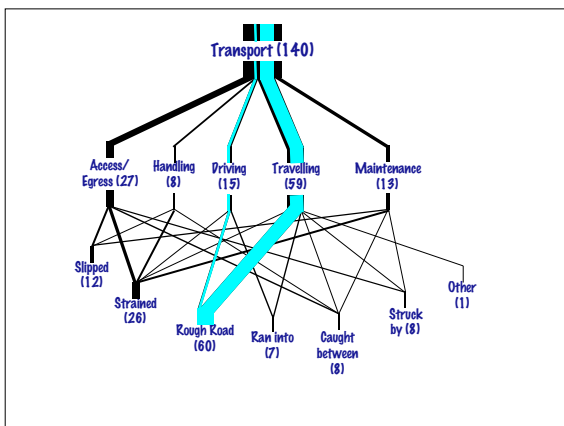
= Transport : Traveling : Hit hole/rough road

NSW Injuries 2002/03- 2004/05









NSW Priorities

Continuous miner

- Slipping off
- Bolting: incorrect control operation
- Bolting: strain
- Handling continuous miner cable

LHD/Shuttle car/Transport

- Driving - collisions
- Driving/Travelling - rough road



Slipping off CM platform

- single level platform
- ladder access
- hand rails
- improved platform lighting

Bolting: inadvertent or incorrect control operation

- guarding controls and pinch points
- shape & location coding
- standardize layout
- direction stereotypes

Bolting: strain

- redesign bolting controls to improve access to drill pots
- mast mounted controls and rotated drill pots



Handling continuous miner cable

- hydraulic cable reeler
- monorail



Driving - collisions

- proximity detection systems
- height adjustable LHD cab
- shuttle car steering incompatibility

Driving/Travelling - rough road

- roadway maintenance
- weight adjustable suspension seats
- shuttle car suspension
- forward facing transport seating



Project Outcomes

- Seminar (feedback form)
- Equipment ergonomics risk assessment tool (draft in folder, comment requested)
- "Handbook for the control of equipment injury risks in underground coal mining" incorporating seminar proceedings, risk assessment tool, documented controls.
