

Top Target Injuries for Upstream Oil & Gas Industry in Alberta (2013-2017 Q2 Data)

Data Source: Workers' Compensation Board (WCB) Alberta data, as of 2017 Q2

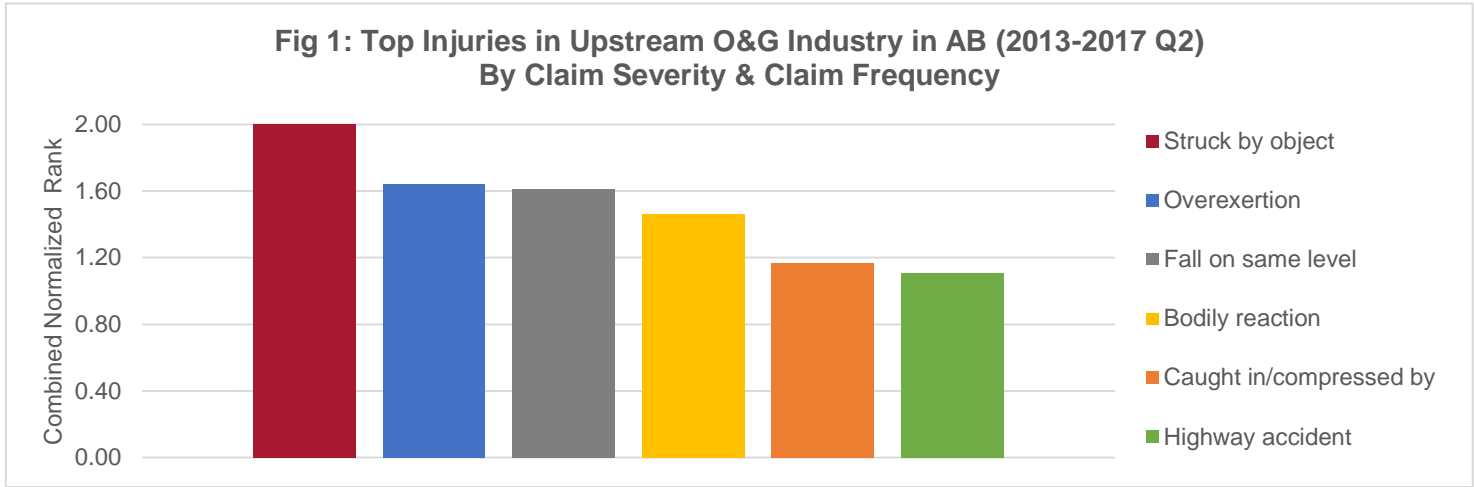
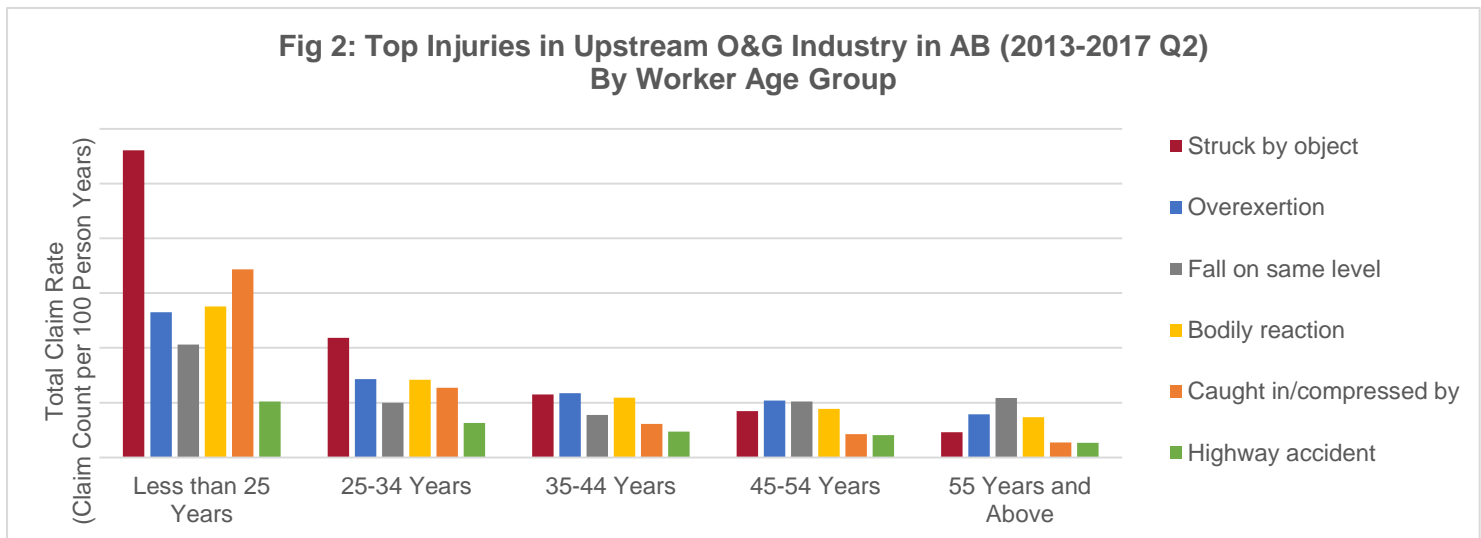


Table 1: AB Top 10 Injuries - by Severity (Claim Cost)

#	Top Injuries-Type of Accident	Total Claim Cost (2013-2017 Q2)	% of Total Cost
1	Struck by object	\$12,025,837	14%
2	Fall on same level	\$11,632,460	14%
3	Overexertion	\$10,262,956	12%
4	Highway accident	\$9,476,558	11%
5	Bodily reaction	\$8,532,373	10%
6	Caught in/compressed by	\$7,161,055	8%
7	Fall to lower level	\$6,904,133	8%
8	Exposure-noxious substance	\$3,131,348	4%
9	Bodily reaction/exertion, NEC	\$2,474,784	3%
10	Repetitive motion	\$1,599,962	2%
Sub Total		\$73,201,466	86%

Table 2: AB Top 10 Injuries - by Frequency (Claim Count)

#	Top Injuries-Type of Accident	Total Claim Count (2013-2017Q2)	% of Total Count
1	Struck by object	2,398	16%
2	Overexertion	1,892	13%
3	Bodily reaction	1,805	12%
4	Fall on same level	1,550	10%
5	Caught in/compressed by	1,371	9%
6	Highway accident	764	5%
7	Fall to lower level	597	4%
8	Struck against object	585	4%
9	Exposure-noxious substance	551	4%
10	Repetitive motion	362	2%
Sub Total		11,875	79%



Glossary

Target Injuries: Claims grouped by type of accidents (event or exposure) over the given period of time.

Age Groups: Age groups are based on the worker's age when injury was incurred.

Claim Severity: It is the function of claim cost, and is based on the assumption that claims involving higher costs are more severe in nature.

Claim Frequency: It is the function of claim count. Higher claim frequency implies higher claim count for a specific injury type over a period of time.

Claim Cost: It is the cost covered by the Alberta WCB for all claims. This includes medical costs, rehabilitation costs, compensation costs and pension costs.

Claim Rate: The number of work-related injury claims per 100 person years worked. The claim rate for age groups is calculated using Statistics Canada data.

Person Years: The estimated number of full-time equivalent workers at a company. Full-time workers = 2000 person hours per year. It is derived from the employer's reported insurable earnings and the rate code's average weekly wage.

Normalized Ranking: For both claim severity and frequency, each of the target issues was given a normalized ranking using a method called feature scaling. This method scales the observed values to a range between 0 and 1, using this formula:
 $x' = (x - \min(x)) / (\max(x) - \min(x))$, where x is an original value, and x' is the normalized value.

Ranks from both variables (frequency and severity) are then combined together to give the final ranking.

Upstream Oil & Gas Industry in Alberta: Includes 20 WCB industry codes that fund Enform as their Safety Association:

1. Drilling-Oil/Gas Wells - 9600
2. Drilling-Rathole/Rig Anchor - 9904
3. Drilling-Shot Hole - 9201
4. Field Production Operators - 6305
5. Mud Logging Services - 9900
6. NDT Testing Incl Visual Inspect - 51502
7. Oil & Gas-Upstream - 6300
8. Oil Field Maint/Construction - 6304
9. Oilfield Downhole Services - 9911
10. Oilfield Services-Christmas Tree - 9921
11. Oilfield Services-Sump Pit - 9927
12. Pipeline Transmission-Oil/Gas - 51501
13. Refine-Crude/Used Oil - 36500
14. Remove/Treat-Hazardous Waste - 36502
15. Seismic Survey - 9200
16. Sulphur Process - 6501
17. Trucking Service-Oilfield - 50720
18. Vacuum Removal-Wet/Dry Waste - 6306
19. Well Casing Services - 9915
20. Well Servicing with Service Rigs - 9903

Type of Accident: Manner in which injury or disease was produced or inflicted by identified source (e.g. struck by object). The following definitions of top target injuries are sourced from CSA standard Z795-Coding of Work Injury or Disease Info.

Struck by Object: The "struck by" codes apply to injuries produced by forcible contact or impact between the injured person and the source of injury when the motion producing the contact is primarily that of the source of injury rather than the person.

Overexertion: Overexertion applies to cases, usually non-impact, in which the injury or illness resulted from excessive physical effort directed at an outside source of injury. The physical effort may involve lifting, pulling, pushing, turning, wielding, holding, carrying, or throwing the source of injury.

Fall on Same Level: Fall on same level applies to instances in which the injury was produced by impact between the injured person and the source of injury, the motion producing the contact being that of the person, under the following circumstances:

(a) the motion of the person was generated by gravity following the person's loss of equilibrium; and (b) the point of contact with the source of injury was at the same level or above the surface supporting the person at the inception of the fall.

Bodily Reaction: Codes in this major group apply to injuries or illnesses resulting from a single incident of free bodily motion which imposed stress or strain on some part of the body. Generally, codes in this major group apply to the occurrence of strains, sprains, ruptures, nerve damage, or other internal injuries or illnesses resulting from the assumption of an unnatural position or from voluntary or involuntary motions induced by sudden noise, fright, or efforts to recover from slips or loss of balance (not resulting in falls).

Caught In or Compressed by Equipment or Object: This major group includes cases in which the injury was produced when a person or part of a person was injured by being squeezed, crushed, pinched, or compressed between two or more objects, or between parts of an object. Codes in this major group apply when a person, or part of a person's body, was squeezed, pinched, compressed, or crushed in operating equipment, between other meshing objects, between a moving and stationary object, or between two or more moving objects.

Highway Accident: Highway accidents include accidents to vehicle occupants occurring on that part of the public highway, street, or road normally used for travel, as well as the shoulder and surrounding areas, telephone poles, bridge abutments, trees aligning roadway, etc.

Data Disclaimer: While every reasonable effort has been made to ensure the accuracy of the data used in this report, data should be read as indicative of scope rather than exact figures. The variable nature of WCB claims management may be reflected in the data shown.

To report feedback/inquiries - pmetrics@enform.ca