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## **Workplace accidents can lead to facial and dental injury**

*A truck driver incompletely tightens the cap on a diesel tank. He injects pressurized air into the tank to push diesel into the engine. The tank pressure increases and blows the cap off the tank, breaking his lower jaw and damaging several teeth.*

*A tire shop employee puts too much air in a tire after he has repairs it. It explodes, causing a large laceration and abrasions to his face.*

*A pipe fitter uses a pipe with a Jack-All to elevate a load. The Jack-All lets go and the pipe smashes his front teeth and breaks his upper jaw and partial denture.*

These are examples of real workplace accidents that resulted in extensive damage to the teeth, jaws and mouth. There were 1,567 such accident claims reported in Alberta in 2006, many of them preventable. One hundred of these injuries resulted in lost work time. Many of them required the services of an oral and maxillofacial surgeon and/or a prosthodontist.

Oral and maxillofacial surgeons are dentists who have furthered their education with 4-6 years of additional residency training in surgery, medicine, and anesthesia. Their training is based in a major medical center and involves all aspects of diagnosis and treatment of conditions of the head, including teeth, mouth, jaw and *temporomandibular* joint (TMJ).

“Patients come to us through referral from a doctor or dentist, or we are called to the emergency departments of hospitals,” said Dr. Kevin Lung, Section Head of Oral Maxillofacial Surgery and Hospital Based Dentistry for Capital Health. “The first step is to determine the nature of the injury and medical status of the patient. Once that is complete, we begin to assess the injury, obtain appropriate imaging and establish a definitive diagnosis of the problems. Before starting treatment, we determine what options are available and which teeth, if any, are salvageable. In addition to treating the fractures, we may also have to re-implant teeth, extract teeth or debride the wound. The patient must be medically stable before we begin the repair or reconstruction.”

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Once treatment is complete, patients have a long road to recovery that may require more surgical and dental reconstruction, and sometimes physiotherapy. The oral surgeon works closely with other general dentists and specialists to reconstruct the patients' mouths to be as close as possible to their pre-accident situations.

In a traumatic accident, a prosthodontist is involved in replacing missing teeth, tissue or bone after oral surgery is finished. This may start with short term treatment to restore function, followed by long term solutions such as conventional prosthetics (fixed bridges or crowns) or supported prosthetics like implants with crowns. "If there's a combination of injuries to the mouth, we sort out what's missing and what we can do to make the teeth and gums functional and aesthetic," said Dr. Kieth Manning, an Edmonton prosthodontist. "With a serious injury, this can take up to two years of treatment and even then, nothing can be considered permanent; there may be a need for replacement or repair down the road. We make all our decisions on a case-by-case basis."

Both dental specialists agree that the best medicine is prevention of the injury. Many workplace accidents are related to the misapplication of products or equipment, particularly chains and pipes, so safety training is essential. However, though work brings its share of adult patients, assaults are the #1 cause of jaw fractures Dr. Lung treats; most of them are related to alcohol and/or drugs. "When you are on call for emergencies, you can expect to see an average of 10 fractures in a rotation: eight of them will involve fights, two will have another cause."

For children of school age, most accidents occur at school or in sports (mouth guards can prevent or reduce the extent of oral injuries in contact sports). Many of the most serious involve bicycles, quads and snowmobiles. Dr. Lung is the Chief of Oral and Maxillofacial Surgery at the Stollery Children's Hospital and he works with a team of pediatric specialists from dentistry and other disciplines when a child's mouth is injured.

"Yes, we are busy and we deal with many diverse issues," said Dr. Lung "but I love my job. I'm a fireman. It's my job to put out fires, save some houses. I don't care who started the fire, I just want to solve the problems that result."

*The Alberta Dental Association + College registers dentists and ensures that the oral health of Albertans is advanced through safe, available, affordable, quality and ethical dental services. All Alberta dentists and oral surgeons are required to be members.*

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