Introduction:

The purpose of this assignment is to educate students on the usage of appropriate levels of definition when communicating with different groups of audience. Students are expected to understand the 3 different types of definition (parenthetical, sentence and expanded definition) and be able to use them accordingly.

For this assignment, students must choose a complex term within their professional field and define it with 3 informative levels. Please note that the expanded definition must contain 4 expansion strategies (include 1 visual); have at least 3 external references and provide a work cited list in either MLA or APA format.

Term: Open Reduction Internal Fixation

Parenthetical Definition:

A doctor may recommend open reduction internal fixation (a surgical treatment for severe bone fractures with metal screws) if there is a bone fracture that cannot heal properly with a cast alone. (Intermountain Healthcare, 2012)

Sentence Definition:

Open reduction internal fixation (ORIF) is a commonly used surgical treatment for bone fractures where an incision is made for realigning bones back to the normal position and implants such as metal screws, plates or rods are used to hold the bones in place during healing. (Thompson & Jonna, 2014)

Expanded Definition:

Description

Open reduction internal fixation is usually considered as an emergency surgery since severe bone fractures are often caused by accidents or sports trauma. ORIF is also required when previous fracture failed to heal properly with conservative treatment (e.g. a cast or a brace). The term *open reduction* refers to open surgery where an incision is needed in order to realign the fractured bone(s). The second part of the ORIF is *internal fixation*, meaning that metal screws or plates will be applied to support the bones for proper healing. The typical process of ORIF is as follow: Firstly, patient will receive a general anesthesia prior to the operation. The surgeon will first make an incision over the bone and manipulate the bones into the correct alignment. Screws, rods, sutures or plates will be applied to fixate the bone as it heals. The implant(s) will not be removed after recovery. The surgical wound will be closed with stitches and protected by a cast or splint. The duration of the operation depends on the severity of the fracture. The full recovery time ranges from 3 to 12 months is also dependent on severity and whether the surrounding nerves or blood vessels were damaged.

Visual Representation

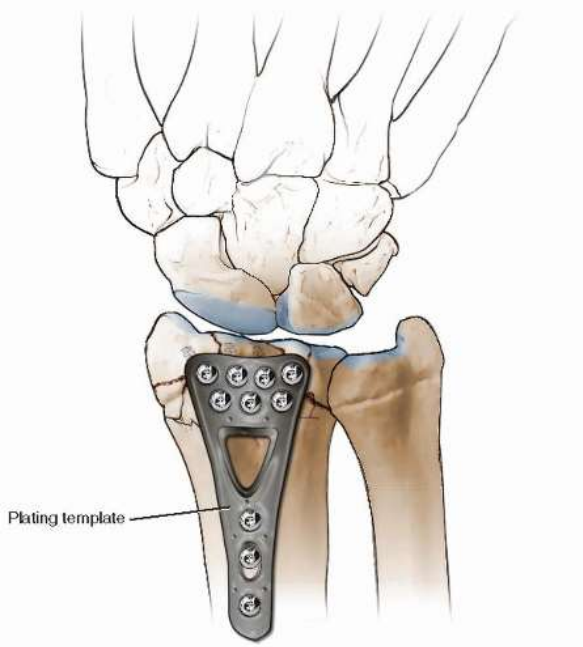

Figure 1. Preoperative template for ORIF of a distal radius fracture. (Bauer & Jupiter, 2016)

Figure 2. Open reduction internal fixation of distal fibula fracture, post-surgical X-ray. *http://www.kcbj.com/foot-ankle/foot-ankle-procedures/distal-fibula-orif/*

Examples

Distal radius fracture of the wrist is one of the most common fractures that uses ORIF as the treatment. Radius fracture usually occurs when a person falls and the wrist is forced to bear

the weight of the entire body. Even though most fractures heal over time, sometimes the broken bone fragments may not be easily realigned due to the complex bone structure of the wrist. *Figure 1* shows an implant design with a metal plate and screws for a distal radius fracture. Another common fracture site is distal fibula near the ankle as it shares the same injury mechanism as distal radius fracture. The fibula's small diameter makes it vulnerable to severe fractures (*Figure 2*).

Risks and Benefits

Some of the potential benefits of ORIF are a decrease in pain, correct healing, restoration of normal functions and prevention of future injuries. ORIF is highly recommended and necessary for severely broken bones.

Since ORIF is an open surgery, its risks include severe blood loss, infection, and allergic reaction to anesthesia. Functional damage caused by ORIF may include incomplete healing of the bone, restricted range of motion, stiffness, implants shifting out of place and muscle spasms.

Reference:

Closed Fractures of Radius and Ulna. (1939). *The British Medical Journal, 2*(4102), 415-415. Retrieved from http://www.jstor.org/stable/20313794

Internal Fixation for Fractures in Childhood. (1976). *The British Medical Journal, 1*(6021), 1301-1302. Retrieved from http://www.jstor.org/stable/20409980

Intermountain Healthcare (2012) Fact sheet for patients and families. Retrieved from https://intermountainhealthcare.org/ext/Dcmnt?ncid=521402750

Singapore Sports and Orthopedic Clinic. ORIF (Open Reduction Internal Fixation) Surgery. Retrieved from http://www.orthopaedics.com.sg/treatments/screw-fixation

Thompson, J. & Jonna, K. (2014) Open reduction and internal fixation of distal femoral fractures in adults. Retrieved from http://emedicine.medscape.com/article/2000429-overview