

### Introduction

In the Acute Care setting pressure injury (PI) development continue to be a problem. To put the hospital-acquired pressure injury (HAPI) problem in perspective, while approximately 67,000 people died in car accidents in 2015-2016, it is estimated that over 58,000 patients died from Hospital-acquired pressure Injuries (HAPI) during that same period. Greater than 1.4 million HAPIs were reported to CMS in 2015/2016 and the cost to treat the over that time period was greater than \$20 billion.

The economic impact to treat HAPI for the hospital is estimated to be \$11,080 for Stages 1, 2 and Deep Tissue Pressure Injuries (DTPI), \$39,361 for a Stage 3 and \$78,722 for Stage 4 and Unstageable PI, and the average time a nurse spends to care for a PI is 20 minutes.

Trauma and craniotomy patients often require head immobilization to prevent a rise in intracranial pressure and dislodgement of critical devices; immobilization increased the risk of pressure injury (PI). Patients with surgical incision at base of head are at higher risk for developing pressure injury due to the open skull post-operatively. The surgical site is fragile and requires complete offloading.

Historically, pillow are used to immobilize and offload but they do not stay in place well and can compress over time. Occipital PI prevalence rates are reported at 0.7% to 8%.

### Setting

This Acute Care facility is a 980 bed, level 1 Trauma Center in a densely populated urban setting with a high risk patient population. In October 2018 alone, 118 craniotomies were performed.

### Problem

In this ICUs, 3 Unstageable occipital pressure injuries were observed June of 2018 in patients whose occiput was offloaded and immobilized using pillows, our standard therapy at that time. At that time, we were introduced to fluidized positioners, a device reported to maintain the therapeutic position over time and mold to the patient's unique shape.



Example: Occipital Pressure Injuries

### Objectives

To determine if offloading of pressure from the occiput and craniotomy incisions, as well as head immobilization can be improved by utilizing fluidized positioners rather than pillows for craniotomy patients.



### Methods & Results

In this Quality Improvement (QI) project, over a six months period, eight head trauma and craniotomy ICU patients were placed on the occipital fluidized positioner post-operatively in the ICU until immobilization and offloading wasn't required. Fluidized positioners positioning devices are moldable and able to conform to each patient's unique head contour so that the surface area for pressure redistribution is increased to improve the offloading of pressure. Additionally, unlike foam pillows, these devices maintain their shape to support a therapeutic position over time.

Over the six months period no new pressure injuries or incisional trauma occurred in any of the eight patients. Following this evaluation, fluidized positioners were implemented as our standard of care for offloading craniotomies post-operatively.

### Conclusion

Fluidized positioners were more effective than pillows in redistributing pressure on the occiput and offload craniotomy incision sites. As the most effective intervention, fluidized positioners were implemented as our standard of care for post-operative craniotomy patients.

### References

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