

## **Appendix**

### ***Operative Interventions***

#### **PF (Plate Fixation)**

The patient was placed in the beach-chair position and the fluoroscope was placed on the uninjured side. The skin incision was placed about 2 cm caudal to the clavicle. Cutaneous nerves were killed at the surgeon's discretion. A 3.5-mm LCP (locking compression plate) superior clavicle plate (DePuy Synthes) was applied with compression, as a neutralization plate, or as a bridging, as judged appropriate by the operating surgeon. A lag screw was used if the intermediary fragments were large enough. The incision was closed with separate sutures in the myofascial layer and a running intracuticular suture closed the skin. Bupivacaine, 5 to 10 mL, was injected into the surgical site for postoperative pain management.

#### **ESIN (Elastic Stable Intramedullary Nailing)**

The patient was placed in the beach-chair position and the fluoroscope was placed on the injured side. The surgeon's index finger was placed in the jugular fossa to draw the incision away from the implant. A 1 to 2-cm incision down to the bone was then placed approximately 2 cm lateral to the sternoclavicular joint. A unicortical entry hole was made medially with a 2.5-mm drill-bit and then was widened and directed laterally with an awl. The nail was passed with oscillating movements until it was secured in the lateral fragment. If it was not possible to obtain a closed reduction, an open reduction was performed. In comminuted fractures, cerclage with an absorbable braided suture wire could be used to prevent telescoping over the nail. The nail was cut short down to the bone, and the skin was closed with simple sutures. Bupivacaine, 5 to 10 mL, was injected into the fracture area for postoperative pain management.

#### ***Postoperative Rehabilitation***

All patients received a simple sling to wear, for comfort, for 1 to 2 weeks, and non-weight-bearing movement was allowed as tolerated. Weight-bearing was started when bridging callus was seen on the radiographs.