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**Bony Mallet (Surgical Repair)**

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**REHABILITATION PROTOCOL**

**Indications:**

Surgery is indicated for bony mallets when the avulsed distal fragment is 50% or greater of the articular surface of the distal phalanx.

**Surgical Procedure**

An incision is made along the area of the distal phalanx and DIP joint. The displaced bone fragment is reapproximated at its point of insertion along the distal phalanx. K-wire fixation is performed positioning the DIP joint in extension. The incision is closed and a light compressive dressing is applied to the hand.

**Post-Operative Rehabilitation**

**3 days Postop**

* The hand dressing is removed. Edema control is initiated consisting of a 3” elastic stockinette to the hand and forearm and either 1” CobanTM or fingersocks to the digit.
* A tip protector is applied to the DIP joint for continual wear. Great care is made to ensure the distal tip of the splint does not place pressure along the pin.
* Active and PROM exercises are initiated to the MP and PIP joints.
* The base of the pin is cleaned daily with hydrogen peroxide. A cotton swab is used to apply the hydrogen peroxide at the base of the pin. This helps to avoid a pin tract infection.

**6 Weeks Postop**

* The DIP joint pin is removed by the physician.
* AROM exercises are initiated to the DIP joint 6 times a day for 5-10 minute sessions.
* A mallet splint is fitted to wear between exercise sessions and at night in the place of the initial tip protector.

**7 Weeks Postop**

* Gentle PROM exercises may be initiated to the DIP joint so long as an extensor lag is not present at the DIP joint.

**8 Weeks Postop**

* Taping and/or dynamic flexion splinting may be initiated to enhance passive flexion at the DIP joint as necessary. When initiated, it is important to monitor for an extensor lag.
* The mallet splint is continued between exercise sessions and at night.

**9 Weeks Postop**

* The wearing time in the mallet splint is progressively reduced during the day. Typically, over the course of 7-10 days, the splint is reduced 1 hour each day with the goal of it being completely discontinued within one to two weeks.

**10 Weeks Postop**

* Discontinue the splint during the day.

**12 Weeks Postop**

* Discontinue the splint at night.

**Considerations**

* As active range of motion exercises are initiated, it is important to monitor for an extensor lag. It is extremely difficult to recapture DIP extension. Therefore, a more aggressive PROM exercise program is recommended in the late state of therapy to avoid developing an extensor lag.