

Distal Biceps Repair Rehab Protocol

Steven E. Flores, MD

Rupture of the biceps tendon may be either an acute or chronic injury. Treatment may be either surgical or non-surgical, however, it is generally agreed, that young, active patients tend to have better outcomes with surgical repair. With conservative, or non-surgical, treatment, loss of flexion and supination strength has been reported to be 20-50% and 30-50% respectively.

Early repair within two to three weeks has been documented to have better outcomes, although later repair is possible. With an acute repair, the tendon typically has minimal scarring and can be easily reattached to its point of insertion on the bone either through drill holes, with suture anchors, or with a metal button. The surgeon may use a single incision in the front of the arm or two incisions, with an additional incision on the side of the forearm.

Patients are placed in a well padded splint for the first one to two weeks to allow incisions to heal and are then transitioned into a hinged elbow brace to gradually increase range of motion while allowing the tendon to heal. Therapy is often prescribed to assist with regaining range of motion and to help regain muscle strength.

Important post-operative signs to monitor include:

- Swelling of the elbow or upper arm and surrounding soft tissue
- Abnormal pain response, hypersensitive-an increase in night pain
- Severe range of motion limitations

Return to activity requires both time and clinical evaluation. To most safely and efficiently return to normal or high level functional activity, the patient requires adequate strength, flexibility, and endurance. Functional evaluation including strength and range of motion testing is one method of evaluating a patient's readiness to return to activity. Return to intense activities following an open distal biceps repair requires both a strenuous strengthening and range of motion program along with a period of time to allow for tissue healing. Symptoms such as pain, swelling and stiffness should be closely monitored by the patient.

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	Range of Motion	Brace	Therapeutic Exercise
Phase I 0-1 Weeks	None	Splint in neutral	<ul style="list-style-type: none"> Gentle shoulder ROM
Phase II 1-3 Weeks	Active extension to 40, passive flexion	Worn at all times (including therapy) 40 to full flexion Remove for hygiene	<ul style="list-style-type: none"> PROM for flexion and supination (with elbow at 90) Active ROM for extension and pronation (at 90)
Phase III 3-5 Weeks	Active extension to 20, assisted flexion	Worn at all times (except for therapy and exercise) 20 to full flexion Remove for hygiene	<ul style="list-style-type: none"> Begin AAROM for flexion and progress to active Continue AROM for extension and progress to passive extension
Phase III 5-6 Weeks	Active flexion and extension to 10 in brace	10 to full flexion Remove for hygiene	<ul style="list-style-type: none"> Active motion as tolerated May begin combined motions (ie extension with pronation) Sub max pain free biceps isometrics in neutral
Phase IV 6-10 Weeks	Gently advance to tolerance	None if adequate motor control	<ul style="list-style-type: none"> Progressive strengthening program—5 lbs x 3 sets of 10 every other day
Phase V 10-12 Weeks	Gently advance to tolerance	None	<ul style="list-style-type: none"> 10 lbs x 3 sets of 10 every other day
Phase VI 12 wks - 5 months	Full and pain free	None	<ul style="list-style-type: none"> May add five pounds a week if pain free May begin light upper extremity weight training
Phase VII 5 months and beyond	Full and pain free	None	<ul style="list-style-type: none"> Return to full activity