

# Wrist Arthroscopy Using a Shoulder Traction Boom

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## ABSTRACT

Overhead boom traction is commonly used in shoulder arthroscopy. In this article, we describe using overhead boom traction in wrist arthroscopy. The advantages are circumferential fluoroscopic access; lack of central post interference with instrumentation; and continuous, uninterrupted traction without need for frequent “dialing up” of traction tower height.

**W**rist arthroscopy is a common procedure, and traction is commonly used to facilitate entrance into the small joints of the wrist. Originally, the hand was simply suspended from an intravenous pole using finger traps. Later, the TractionTower (ConMed Linvatec, Largo, FL) was developed for wrist arthroscopy.<sup>1-3</sup> Although this tower works fairly well and allows wrist flexion during arthroscopy, it has several disadvantages. Its central post may interfere with instrumentation and may knock out the outflow cannula. This radiopaque post may obstruct fluoroscopic views, which are required during percutaneous fixation of distal radius fractures and carpal instabilities. With the use of this tower, traction may be lost intermittently over the course of the case. This may be because of stress relaxation of the wrist ligaments or slippage of the Velcro straps across the upper arm. The ARC Surgical (Hillsboro, OR) wrist traction tower solves many of the problems inherent in the Linvatec system. However, purchasing a tower is not necessary, as the constant traction needed for wrist arthroscopy can be obtained with a shoulder boom, which is found in most operating suites in which shoulder arthroscopy is performed.

A shoulder traction boom provides 360° fluoroscopic access without the radiopaque central post

that obscures visualization. There is no central post, which interferes with instrumentation, and the boom maintains constant, uninterrupted traction. Traction is constant because, when the ligaments or the straps holding the upper arm relax, the weight continues to maintain traction as long as it hangs free. The use of overhead traction devices has been noted<sup>1,4</sup> but, to our knowledge, has never been described in detail.

“[With the shoulder boom,] fluoroscopic access is unencumbered, traction is constant, and there is no need for intraoperative adjustment.”

## TECHNIQUE

The patient is placed supine on the operating table with the contralateral arm tucked against the body and a standard shoulder traction boom secured to the operating table next to the contralateral shoulder. The tip of the boom is directed over the body toward the operative wrist.



**Figure 1.** Operative arm suspended from overhead boom often used for shoulder arthroscopy.

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**Figure 2.** Contralateral arm tucked against body; traction boom attached to operating table at level of contralateral shoulder.

A tourniquet is placed on the operative upper arm. Nonelastic bandage is wrapped over the tourniquet and around the hand table to firmly secure the upper extremity to the hand table and provide countertraction. Should an open procedure be required after arthroscopy, this bandage may be cut by the circulating nurse.

In accord with standard preparation of the extremity, 2 to 4 disposable plastic Chinese finger traps are placed on the index, middle, and ring fingers. In our experience, trap slippage has not been a problem. The S-hook from the shoulder arthroscopy pack is placed through the rings at the end of the traps, and the attached rope is placed through the overhead boom. A knot is tied in the rope, and traction of up to 10 pounds is applied (Figures 1, 2).

Constant traction may make it difficult to move the wrist during arthroscopy, but, if such movement is desired, traction may be reduced so that an assistant can hold the wrist in the desired position.

### DISCUSSION

In 10 years, Dr. Budoff has not observed any complications arising from the use of overhead traction booms during wrist arthroscopy. In addition, boom setup is quick, and the hand table is not occupied by a traction tower. Fluoroscopic access is unencumbered, traction is constant, and there is no need for intraoperative adjustment.

### AUTHORS' DISCLOSURE STATEMENT

The authors report no actual or potential conflict of interest in relation to this article.

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