

New Frontiers in Arthroscopic Surgery

Menisectomy of the Right Knee Using a Novel Knee Restraint

Case Study: Vol.1, No 1

Case Background and Diagnosis

- 31 year-old male (patient 15) with arthrofibrosis following arthroscopic ACL reconstruction and medial meniscus repair
- ACL and MMT injury four months prior
- Currently has restricted knee ROM
- Patient was scheduled for arthroscopic lysis of adhesions and manipulation

Case Setup

- The patient was placed on the OR table in the supine position, anesthetized, then repositioned with the patella just distal to the knee break of the OR table, thus allowing the lower extremity to be perpendicular to floor
- Using standard procedure, a tourniquet was applied to the upper thigh and inflated
- The circulator then placed, as previously determined, the BraceTec Knee Restraint (BKR) over the extremity (figure 1), vertical stem down into the OR table bracket, next the brace bladder was inflated to 150 mm hg of pressure
- The leg was prepped and draped in the normal fashion

Procedure

- Standard arthroscopic portals established, diagnostic arthroscopy performed
- Patient noted to have extreme notch fibrosis, intact ACL repair, and healed meniscus
- Synovectomy performed
- Dressing applied
- Case completed and knee manipulated, full ROM achieved, currently competing in recreational soccer and softball on ongoing basis

Discussion

Fifteen (15) cases, 10 male and 5 female, have been performed to date, evaluating the ease of set up and use; one size restraint fits all; access and manipulation of the knee; disposability; control over the amount of lateral and medial stress applied to the knee, facilitating maximum surgical exposure of the knee joint. All cases (21 min mean procedure time) were successfully performed with one size, disposable BKR. The ultimate lateral and medial pressure was safely applied against the restraint, which provided for the maximum exposure of the knee joint. All cases were quickly and easily performed in the sitting position with minimal standing in one case. There were no untoward events caused by the restraint. In all, the BKR offers a safer and more controlled way to achieve maximum exposure of the knee joint verses the figure 4 technique.

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BraceTec Knee Restraint-BKR



Figure 1

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Synovectomy of the Right Knee Using a Novel Knee Restraint

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Case Background and Diagnosis

- 31 year-old male (patient # 15) with arthrofibrosis following arthroscopic ACL reconstruction and medial meniscus repair
- ACL and MMT injury four months prior
- Restricted knee ROM now
- Patient was scheduled for arthroscopic lysis of adhesions and manipulation.

Case Setup

- The patient was placed on the OR table in the supine position, anesthetized, then repositioned with the patella just distal to the knee break of the OR table, thus allowing the lower extremity to be perpendicular to the floor.
- Using standard procedure, a tourniquet was applied to the upper thigh and inflated.
- The circulator then placed, as previously determined, the BraceTec Knee Restraint (BKR) over the extremity (figure 1), vertical stem down into the OR table bracket; next the brace bladder was inflated to 150 mm hg of pressure.
- The right leg was prepped and draped in the normal fashion.

Procedure

- Standard arthroscopic portals established, diagnostic arthroscopy performed
- Patient noted to have extreme notch fibrosis, intact ACL repair, and healed meniscus
- Synovectomy performed and dressing applied
- Case completed and knee manipulated; full ROM achieved; able to compete in recreational soccer and softball on ongoing basis

Discussion

Sixty-eight (68) arthroscopic cases, 42 male and 26 female, and twelve (12) ACL cases, 6 male and 6 female, have been performed to date, evaluating the ease of set-up and use; one size restraint fits all; access and manipulation of the knee; disposability; control over the amount of lateral and medial stress applied to the knee, facilitating maximum surgical exposure of the knee joint. All cases (arthroscopic 21 min mean procedure time, ACL 48 min mean procedure time) were successfully performed with one size, disposable BKR. The ultimate lateral and medial pressure was safely applied against the BKR, which provided for the maximum exposure of the knee joint. All cases were quickly and easily performed with 94% in the sitting position (figure 2). There were no untoward events caused by the BKR. In all, the BKR provides for fast and easy setup (figure 3) and offers a safer and more controlled way to achieve maximum exposure of the knee joint verses the figure 4 technique or other methods of restraint.

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BraceTec Knee Restraint-BKR



Figure 1



Figure 2



Figure 3

Brace

Bladder

Tourniquet