Return to Play
After Modified Brostrom Operation in Athletes

Kyung Tai Lee, M.D., Young Uk Park, M.D.*, Hyuk Jegal, M.D

KT Lee’s Orthopedic Foot & Ankle Clinic, Seoul, Korea
Department of Orthopedic Surgery, Ajou University Hospital, Suwon, Korea*
Return to Play
After Modified Brostrom Operation in Athletes

Hyuk Jegal, M.D.
My disclosure is in the Final AOFAS Mobile App.
I have no potential conflicts with this presentation.
Background

• Mod Brostrom procedure; good long term results

• But it is Different Issue between Athletes vs General population

  Hot issues to Athletes is
  1) the “time to return to play”
  2) “the ability to continue sport activity”

• Knee joint: 3 reports after ACL reconstruction by 2011 about sport-specific RTP outcomes

  Walden M et al KSSTA 2011;19:11-9

• Ankle joint: No consensus is available regarding “optimal rehabilitation length” and “return to play definition”
Purpose of this study

To investigate

1. **Average Time to return to sports activity** in phases
   (jogging, private training, join official game etc)

2. **Rate of return** to same level sports activity
   at the defined RTP interval

3. Performance level at the final Follow up

4. **Cause of delay** in RTP
Material & Methods

- From August 2013 to December 2013
  Total 54 cases, Modified Brostrom op.

- 18 MBO without additional procedure
  at least 6 month conservative treatment

Exclusion criteria
- unstable contra-lateral ankle
- additional procedure
- previous surgery
- lower limb alignment requiring surgery

- M:F 9:9
- Mean age 19.3 year old

- Mean follow up 8.8 months
  4wk – 6wk – 8wk – 16wk – last f/u
  jogging, jumping and personal/team training

- at least amateur / professional player
  Soccer 8, basket ball 2, dance/gym 3
  Taekwondo 2, etc 3

- Check the Time to “start rehabilitation in phases”
  by P/Ex., telephone (player, rehabilitation trainer)

  1) Jogging/ Jumping
     full ROM, power > 80%, no Sx. after stress test

  2) Personal training (Agility)
     straight jogging, figure of 8, cutting

  3) Team training by coach or trainer

  4) Official Game
**Material & Methods**

- **Definition of successful RTP** -
  - ✓ 4 month postoperatively
    1) Clinical evaluation
       - Full ROM, Manual strength evaluation: Good degree
       - Jumping rope test: negative
    2) Radiological evaluation
       - Stress X-ray (TELOS)
       - Ultrasonography: No abnormal findings

- **Check “Return Rate” to sports activity in phases**
  - in official game at the defined RTP time (4 month postoperatively)

- **Check “performance level” prior to official game**

- **Definition of delay** -
  - Over 6 months cannot join official game

- **Check Cause of delayed RTP**
  - Sport-specific
  - Player (demographic – age, sex)
  - Rehabilitation center
  - Coach problem
Result(I)

**Average Time to return to sports activity**

3.9 month postoperatively
: to first official match after modified Brostrom op.

- Time to return to sports in phases

<table>
<thead>
<tr>
<th>Table 1: Rehabilitative and follow-up details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Time from surgery to jogging</td>
</tr>
<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td>1.78</td>
</tr>
<tr>
<td>Time from surgery to personal training</td>
</tr>
<tr>
<td>Time from on team training</td>
</tr>
<tr>
<td>Time from surgery to first official match</td>
</tr>
</tbody>
</table>
Return rate to same level sports activity at the defined RTP interval

83.3% (15 of 18) return to full sport activity at defined interval

(4 month operatively)
Result (III & IV)

Performance level at the final follow-up (8.8M)

All of 18 athletes return to official game at last 8 month-followup postoperatively.

- 3 Delayed cases
  - 2 gymnast, 1 athletic dancer / all women
Discussion

✓ **Shorter RTP time than the results of ACLR in knee joint**

Mean time to return to official match: 3.9 month vs 7~10 month

✓ but precise definition of RTP is not even report.

No report about ankle joint for RTP

✓ **83.3% of athletes return to the same level sports activity at 4 month postoperatively.**

- good result in 28 of 30 cases

- 89% (in 180 cases)

**KT Lee et al FAI 2011**

**Karlsson et al JBJSAm 1988**

- Finally, **All of athletes return to sports activity** at 8 month after surgery with higher rates than the 71% after ACLR at 4 year follow up

- 3 delayed cases

  - ; common characteristics: young female with general laxity requiring high jump different from

  - ; another injuries, career end(age) and personal reasons **Zaffagnini et al 2014 the knee**

- No relation to RTP

  - 7 FHL tendinitis and 1 Peroneal tendinitis in Ultrasography

• This study has some limitations

  - small size and heterogeneous group, retrospective

• but this is **first study** that defines successful RTP after lateral ankle instability to our knowledge.

• **Guideline for Medical team including surgeons, athletic trainers** can inform athletes about plan to expect after surgery in terms of **performance level and timing of return to sport**.
Conclusion

☑ 3.9 months takes to official match after MBO

☑ 83.3%, Return rate to same level within 4month
☑ 100% at 8.8 month

☑ Some delayed cases in hypermobile young female athletes


