The Inguinal Ligament Release Procedure
A New Concept – A New Procedure for Sportsman’s Groin

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Surgery for Groin Pain

AIMS

- Demonstrate groin anatomy laparoscopically and challenge 500 years surgical and anatomical doctrine
- Introduce the concept that groin pain arises from the inguinal ligament
- Demonstrate that releasing the ligament improves the symptoms of groin pain
- Present the results of the Inguinal Ligament Release Procedure
My Background

- Laparoscopic and Hepatobiliary Surgeon
- 10,000 laparoscopic procedures
- 5,000 laparoscopic hernia procedures
- Special interest in groin anatomy
Laparoscopy – A Different View
Direct and Indirect Hernias

Hesselbach’s Triangle
Direct Inguinal Hernias

Deep Inguinal Ring
Indirect Inguinal Hernias
Laparoscopic View

Right Direct

Right Indirect
Left Transversalis Sling and LDH

1559 Casper Stromayr (in Practica Copiosa) distinguished between indirect and direct hernia
Some Direct Hernias occur Lateral to the Vessels

Photographs of Left Inguinal Hernias

Lateral Side

Medial Side
Direct Hernia occurring Lateral to the Vessels
Inguinal Hernia of the Third Kind

- Third type of inguinal hernia
- Common finding laparoscopically
- Challenges 500 years surgical doctrine
Laparoscopy for Groin Pain?

Rationale

- Excellent views of anatomy
- Different perspective on causes and pathology
- Challenges standard procedures
Groin Pain – Current Concepts

Strain of the inguinal, lacunar, pectineal ligament complex

Weakening of posterior wall – no detectable hernia (no obvious clinical lump)

Groin Disruption
- Tear in ext oblique
- Tear in conjoined tendon
- Dehiscence of conjoined tendon

Inguinal/Other Nerve Entrapment
- Obturator Nerve Entrapment
- Osteitis Pubis
- Psoas Bursitis
Clinical Presentation of Groin Strain
Sportsman’s Groin
Clinical Examination
Sportsmans Groin Anatomy

Upper Groin

Lower Groin/Thigh
Lacunar Ligament and Pectineus
Groin Pain

Learning Points to Remember:

- Usually no palpable hernia
- Many ligamental attachments
- Pubic bone aponeurosis formed by
  - Rectus sheath
  - Conjoined tendon
  - Inguinal ligament
  - Pectineal ligament / pectineus
  - Adductors
    - Longus
    - Brevis
    - Gracilis
    - Magnus
Case Study – Ian Marshall

Everton 1 – 0 Leicester City

FA Carling Premiership 97/98 - Game 35
Saturday 18 April 1998
Goodison Park, Merseyside
Att: 33,642

Ref: Steve Lodge
League Position: 16th

<table>
<thead>
<tr>
<th>MATCH FACTS</th>
<th>GOALSCORERS</th>
<th>Debuts</th>
</tr>
</thead>
<tbody>
<tr>
<td>EVERTON:</td>
<td>Madar (2)</td>
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<tr>
<td>Leicester City:</td>
<td>Marshall (38)</td>
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</tbody>
</table>

Debuts
Inguinal Ligament Release Procedure

1. Laparoscopic Assessment
2. Divide scar tissue, inguinal ligament, pectineal fascia
3. Reinforce the groin with soft non-reactive mesh

Lloyd, David M et al, 2008
Laparoscopic Views:
Disruption of Inguinal and Lacunar Ligament

left

right
Laparoscopic Views:
Very Inflamed Right Lacunar Ligament
Dividing the Inguinal Ligament and Pectineus Fascia
Inguinal Ligament Release

Elite Athletes
Disruption Right Lacunar Ligament
Chronic Groin Pain after Open Surgery

Release of Scar Tissue and Sutures
Release Procedure

Laparoscopic findings at 6 months
Inguinal Ligament Release Procedure
(n = 600)

Results:

Experience in 600 cases
On going prospective Audit
Published Results 73 cases
Inguinal Ligament Release Procedure

Gregorz Raziak – 14 days post surgery
Inguinal Ligament Release Procedure

Hughes   Vassell   Carrick   Etherington   Staunton   Allback

Kelly   Williams   Balshaw   Pelu
Published Results – Functional Limitation

Functional limitation pre- and post-operatively (p<0.001). Reproduced with permission of British Journal of Sports Medicine.
Symptom severity score pre- and post-operatively in all patients (p=0.005), football players (p<0.001), rugby players (p<0.001), and professional sportsmen (p<0.001). Reproduced with permission of British Journal of Sports Medicine.
Published Results – Frequency of Symptoms

Frequency of symptoms in all patients pre-operatively and at follow-up (p<0.001).
(Reproduced with permission of British Journal of Sports Medicine)
Results

- Failure 3%
- Haematoma/Seroma 5%
- Infection 2/598
- Acceptable but continued mild symptoms 8%

Recurrent Surgery (20%)

- Audited 34 elite athletes
- 14 ‘Gilmore’ – type surgery
  - 5 Germany
  - 8 Manchester
  - 7 Elsewhere

30 back playing at 4 weeks
Inguinal Release for Groin Pain

Additional Learning Points to Remember:

- Many Ligamental Attachments
- Aponeurosis on Pubic bone
- Abandon term ‘sportsman’s hernia’
- Osteitis Pubis over-diagnosed
- Pain is ligamental - Lacunar ligament?
- Fit the symptoms and signs to the diagnosis
- Not a treatment for adductor strain, although adductor symptoms do improve after a release
Rehabilitation

- **Week 1**
  - Gentle exercise
  - Begin mobilisation
  - Stretching
  - Light gym work

- **Week 2**
  - Increase activity
  - Biking swimming
  - Increase gym work

- **Week 3**
  - Weight training
  - Jogging/side stepping
  - ? Resume light ball training

- **Week 4**
  - Aim to fully train
  - Return to sport
Inguinal Ligament Release Procedure

Conclusions

- Laparoscopy allows better evaluation of groin anatomy/pathology
- There is a third type of inguinal hernia
- Avoids groin incision which may cause neuralgia
- Helps to re-enforce weakness of whole groin region
- Allows early and full rehabilitation
- 80% players return to activity within 4 weeks
- Excellent for recurrent pain even after previous groin surgery
- Very good procedure for groin pain with published results
Inguinal Ligament Release Procedure

thank you
Neuralgia – Medial Thigh Pain