Thumb Ulnar Collateral Ligament Injuries

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Thumb UCL Injuries

• Introduction
• Assessment
• The Value of Ultra Sound.
• Surgical Techniques and Tips
• Case Discussion
• The Sunderland Management System
• Summary
Anatomy
UCL INJURIES

Assessment
Injury Mechanism
History

• 38 year old male factory worker
• At work, injured R thumb
• Previous injury to thumb 5 years before
• Motor bike accident
• UCL repair R thumb
• Pain at base of thumb
• No instability
Standard X-rays

- AP and Lateral
- No Bone injury
- No subluxation/dislocation
X-rays
What Next ?
Ultra Sound
US Report

- Done 4 Weeks from injury
- Thickening of UCL.
- No Displaced Rupture
- Thickening over ulnar dorsal aspect.
- ? Dorsal capsular tear.
- RCL Normal
- Volar Plate Normal
- Suggest, Conservative Treatment.
Subsequent Management

- Reviewed in clinic with US results
- No clinical instability
- No surgical intervention
- Continue with rest and splint.
- Discharged 5 weeks after re-injury
Time for Surgery
SURGICAL TREATMENT
Surgical Technique

- Preparation
- Equipment
- Exposure
- UCL Repair
  - Techniques
  - Materials
- Post-op Care
  - POP
  - UCL Splint
Skin Incision Marked
Position on Table
AA Exposure
Division of AA
Exposed MCPJ
Dorsal Capsule Exposure
Splintage
Sunderland Study

10 Year Experience
GC, CLM & LI
Injury 2009
Results

Demographic Data

• Age
• Sex
• Dominant Side
• Side Injured
• Cause of Injury
• Mechanism of Injury
• Place of Injury
Clinical Findings

- A&E
- UCL Clinic
- US Findings
- Operative Findings
- Post-operative Care
- Dorsal Capsular Injuries
- Surgical Techniques/Tips
Age Distribution

![Age Distribution Graph](image)
## Causes

<table>
<thead>
<tr>
<th>Causes</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>49%</td>
</tr>
<tr>
<td>Trapped, Caught Thumb</td>
<td>12%</td>
</tr>
<tr>
<td>Sports</td>
<td>19%</td>
</tr>
<tr>
<td>Assaults</td>
<td>6.3%</td>
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<tr>
<td>Motor Bikes</td>
<td>5.5%</td>
</tr>
<tr>
<td>Cars</td>
<td>2.4%</td>
</tr>
<tr>
<td>Others</td>
<td>5.8%</td>
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</tbody>
</table>
## Sports

<table>
<thead>
<tr>
<th>Sport</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Football</td>
<td>7.7%</td>
</tr>
<tr>
<td>Cycling</td>
<td>3.3%</td>
</tr>
<tr>
<td>Skiing</td>
<td>3.2%</td>
</tr>
<tr>
<td>Rugby</td>
<td>1.6%</td>
</tr>
<tr>
<td>Boxing</td>
<td>1.6%</td>
</tr>
<tr>
<td>Cricket</td>
<td>1.6%</td>
</tr>
</tbody>
</table>
Role of US

- Advantages
  - None invasive
  - Sensitive
  - Specific
  - Dynamic
  - Pre-operative Planning

- Limitations
  - Operator Dependency
  - Timing/Delays
  - Dorsal capsular Tears
Role of US

• **Our Experience**
  – Useful Adjunct Pre-op
  – Screens Patients
  – Sensitive/specific
  – Timing is Crucial
  – Not sensitive for DC tears.
  – User dependency
Complications

- Overall (22/127) 17.7%
- Neurapraxia (8) 6.5%
- Stiffness (5) 4.0%
- Scar Pain (2) 1.6%
- Infection (Sup.) (1) 0.8%
- Others (6) 4.8%
Delayed UCL Rupture
History

• 46 year old male
• Plasterer by trade
• Right hand dominant
• RTA, car hit in the rear
• Jarred R thumb on steering wheel
• Pain MCP joint, mainly ulnar side
• Thought will settle.
• No initial treatment
History

- Continued to work
- Unable to use right thumb
- Went to WIC
- Examined and X-rayed
X-rays
History

- Referred to UCL clinic
- Clinically UCL Rupture
- Positive “Muwanga-Jones” sign
- X-rays reviewed
- Thumb splint
- US arranged
- Surgery next hand trauma list
Sublaxation MCP Joint
Management Plan

- Referred to UCL clinic
- Clinically UCL Rupture
- Positive “Muwanga-Jones” sign
- X-rays reviewed
- Thumb splint
- US arranged
- Surgery next hand trauma list
The Sunderland System

- All A&E Staff Awareness
- Weekly
  - Open Access UCL Clinic.
  - Dedicated US Session
  - Hand Trauma List
  - Joint hand clinic
- Multi-speciality Input
  - A&E
  - Hand Surgeons
  - Radiologist
  - Hand Physiotherapy and Occupation Therapist.
Patient Journey

- Injury
  - GP
  - WIC
  - A&E
  - Fracture Clinic
    - UCL Clinic
    - Radiology
    - Theatre
Summary
Well Used Splint