Introduction

- Evolving Field
- Technique / Portals
- IntraArticular
  - Central
  - Peripheral
Introduction

- Burman, 1931
Introduction

- Burman, 1931
- More Commonly Performed Since 1980’s
  - Eriksson & Glick
  - McCarthy & Villar
  - Dorfman & Boyer
  - Dienst
  - Byrd & Philippon
Introduction

- Burman, 1931
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  - Byrd & Philippon
- Diagnostic
- Treatment
- Expanding Indications
Hip Arthroscopy Growing

Number of Hip Arthroscopies

10%
Introduction

- Many Feel Hip Arthroscopy
- Futile
- Difficult
Slow Acceptance
Slow Acceptance

- Surrounding N-V Structures
- Technically Difficult
  - More Constrained Joint
  - Thick Soft Tissue Envelope
  - Dense Capsule
    - Hard to Distract
  - Limited Maneuverability w/i Joint
- Learning Curve
Current Techniques

- Loose Body Removal
- Labral Debridement
- Labral Repair
- Ligamentum Teres Debridement
- Microfracture
- Acetabuloplasty
- Chielectomy
- Capsulorrhapsy
- Labral Reconstruction
- Lig Teres Reconstruct

- Psoas Tendon Release
- Abductor Repair
- IT Band Release
- Trochanteric Bursectomy
- Acet Rim Fx ASIF
- Femoral Head ASIF
- Sciatic Nerve
- IschioFem Impinge
Overview

- General Considerations
- Compartments
- Equipment
- Anesthesia
- Position
- Portals / Anatomy
Compartments

CC
Central Compartment

PC
Peripheral Compartment

Drawing Courtesy of Michael Dienst, MD
Compartments

Central Compartment

- Artificial Joint Space
- Traction Req‘d
Compartments

Central Compartment
- Artificial Joint Space
- Traction Req‘d

Peripheral Compartment
- Need Traction Off
- Relax Ligaments
General Considerations

- Keep Traction As Short As Possible
  - < 2 hours
- Keep Traction Force To As Little As Needed
- May Be Able To Lower Force After Make Portals
Equipment

- Fracture Table
- Fluoroscopy
- Hip Arthroscopy System
  - Long Scopes
  - Special Cannulas
  - Long Instruments
- E-Flex
- 30° & 70° Lens
Anesthesia

General Anesthesia
- Paralyzed
- Lumbar Plexus Block
- Epidural +
- Hypotension
Patient Positioning

Supine
Patient Positioning

Lateral
Patient Positioning

Supine

- Fracture Table
- Padded Post - Lat
- Neutral Rot / F-E
- Abduct 10 – 25°
- 20 - 50 lbs
- Tensiometer?
Relieve IA Pressure

- Pull Traction
- Prep – Betadine
- Spinal Needle
  - Stay Close To Femoral Head
  - Long End Of Needle Away From Femoral Head
- Equilibrate w/ Ambient Pressure
Relieve IA Pressure

- Pull Traction
- Prep – Betadine
- Spinal Needle
- Equilibrate w/ Ambient Pressure
- ? Saline
Making The Portal

Visualize Entry

Protect Labrum / Articular Cartilage
Making The Portal

Visualize Entry
Protect Labrum / Articular Cartilage
Making The Portal

Visualize Entry

Protect Labrum / Articular Cartilage
Anterolateral Portal

- First Portal
- Safe & Easy
- Ant Margin of Greater Troch
- Close to Sup Fem Head
- Anteversion
Anterolateral Portal

- Penetrate Gluteus Medius Muscle
- Superior Gluteal Nerve Closest
  - 4.4 cm fm Portal
  - Branches Posteriorly

with permission of Smith & Nephew, Andover, Massachusetts
Anterolateral Portal

View w/ 70° Lens

View w/ 30° Lens

Drawing Courtesy of Michael Dienst, MD
Anterolateral Portal

$70^0$ Lens
Anterolateral Portal

$30^0$ Lens
Aid To Make Additional Portals
Anterior Portal

- I Prefer 2nd Portal
- Some Prefer as 1st Entry Site
- Junction of ASIS & Greater Trochanter
- 45° From Byrd
- 30° Med
Anterior Portal

- 6.3 cm Distal to ASIS
- Penetrates Sartorius & Rectus Femoris
Lat Fem Cutaneous Nn

- High Risk
- ≥3 branches @ Portal
- Move Lat Does Not Reduce Injury Risk
- Reduce Risk Moving Medially
  - (Fem NV)
- Injury Cutting Deep
- Vigorous Instrumentation
  - Loose Bodies
- Temp or Permanent

Primal Pictures
Anterior Portal

- Cut Skin Only – LFCN
Anterior Portal

- Femoral Nerve
  - Tangential To Portal
  - 3.2 cm from Portal
  - Slightly Closer @ Capsular Level
Anterior Portal

- Lateral Femoral Circumflex Artery
  - 3.7 cm Inf to Portal
  - May be w/i mm of Portal @ Capsular Level
Anterior Portal

View w/ 70° Lens

View w/ 30° Lens

Drawing Courtesy of Michael Dienst, MD
Anterior Portal

- Observe Entry w/ 70° Scope fm A-L
- Exchange Trochar To Look At A-L Portal - Labrum

70° Lens
Anterior Portal

30° Lens
Making The Portal

- First Portal Made Under Fluoro Only
- Others Made Under Arthroscopic Visualization
- Before Scoping Hip, Check 1st Portal From Other Portal To Be Sure No Injury to Labrum
**PosteroLateral Portal**

- Last Portal
- Posterior Margin of GT
- Converge Toward Center of Joint
- Be Sure LE - NR
Sciatic Nerve Risk

From Byrd
PosteroLateral Portal

Superior Gluteal Nerve

- 4.4 cm from Portal
- Branches Posteriorly
PosteroLateral Portal

View w/ 70° Lens

View w/ 30° Lens

Drawing Courtesy of Michael Dienst, MD
PosteroLateral Portal

70° Lens
Normal Variants

Labral Cleft
Normal Variants

Triradiate Physeal Scar
Normal Variants

SupraAcetabular Fossa
Normal Variants

Stellate Crease
Mean Accessible Area

Graphical Representation of MASA

Femoral Head

Medial View         Superior View

Courtesy of Michael Gerhardt, MD
Mean Accessible Area

Graphical Representation of MASA
Acetabulum & Labrum

Courtesy of Michael Gerhardt, MD
Central Compartment Arthroscopic View Limitations

- Posteroinferior & Medial
- Most Difficult to Reach
Peripheral Compartment

- Flex Hip
  To Relax
  Anterior
  Capsule /
  Ligaments
Peripheral Compartment

- Portal
- 7.5 cm Distal to Ant-Lat Portal
  Or
- 4 -5 cm Proximal To Ant-Lat Portal

From Byrd
Peripheral Compartment
Peripheral Compartment
Peripheral Compartment
Other Portals

For Lesser Troch / IP

Release &/or Peritrochanteric Space
Troch Bursectomy
Complications: Incidence

- Overall = 1.4 – 5.5%
  - < 0.5% Permanent
- Clark / Villar >1,000 Arthroscopies = 2.8%
- Surgeon’s Experience
  - Steep Learning Curve
Hip A/S – Complications

- Related To
  - MD Experience
  - Fluid Mgt

- Most Related To Traction
  - Too Much
  - Too Little
Conclusion

- Steep Learning Curve
- Start with Easy Cases
- Fun
Conclusion

- Expanding Indications
- Enhanced Understanding
- Better Technology
- Better Tools
- Minimal Relative Morbidity
- Direct Access To The Problem
Thank You