Practical Application of Knee Arthroscopy

Sport Medicine Course for Nurses 2009

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APN
Operating Theatre
PWH
Application of knee arthroscopy

- Diagnostic knee arthroscopy
- Meniscus repair
- Ligament Reconstruction
  - e.g. ACL, PCL, PLC
What do we need for a knee Arthroscopy?

• TV system
• Irrigation System
• Shaver system
• Radiofrequency machine
• Appropriate instruments
TV System
TV System

- Monitor (HD)
- Data Management System
- Camera unit
- Light Source
TV System

- Monitor (HD)
- Camera unit
- Light Source
- Data Management System
TV System

- Camera Head
- Lens
TV System

- Camera Head
- Lens
Irrigation System

- Inflow
- Outflow
Irrigation System

• Inflow
  – 3L NS
  – By gravity
Irrigation System

• Inflow
  – 3L NS
  • By pump
Irrigation System

- Outflow
  - Multi Reservoir Suction Unit
  - Two Bottle System
Irrigation System

- Vacuum Paddle
- Bucket
Shaver System

- Machine
- Handpiece
- Shaver Blade
Shaver System

- Handpiece
Shaver System

• Shaver Blade
  – Various Diameter
  – E.g. 3.5, 4.5, 5.5
  – Different cutting edge
  – Bur
Radiofrequency System

- Machine
- Electrode

![Image of a radiofrequency system machine](image_url)
Radiofrequency System

- Electrode
  - Various tip
  - E.g.
    - Hook
    - Side effect
    - End effect
Arthroscopic Equipment Trolley
Arthroscopic Consumables Trolley
Appropriate Instruments

• Knee Arthroscopy
  – Basic Instrument
Operating Instruments

– E.g. Punches, Graspers, Scissors, etc.
Meniscal Surgery

Knee Meniscus Surgery
Appropriate Instruments

- Meniscus Repair
  - Have Some options (according to surgeon’s request)
    - Inside-out repair instrument
    - Outside –in Meniscal Repair System (single use)
    - Fast Fix Meniscus Repair System (single use)
Repair Options

- Inside-out: Single and Double Lumen Cannula
Repair Options

- Outside–in Meniscal Repair System (single use)
Fast Fix Meniscus Repair System

- Delivery Needle
- Depth Penetration Limiter
- Split Cannula
- Suture Funnel
- Suture Cutter and Knot Pusher
Ligaments Reconstructions

- **ACL**
  - Hamstring graft
    - Single bundle
    - Double bundles
  - Bone Tendon Bone graft

- **PCL**
  - Hamstring graft
Appropriate Instruments

- Ligament Reconstruction
Fixation System

- Endo Button
- BioRCI Screw
- SoftSilk Titanium Screw
Future Development

- Navigation assisted ACL reconstruction
  - Double Bundles
Setting of the Theatre (Knee Arthroscopy)

- Anaesthesia Machine
- TV System
- Gravity Irrigation Tower
- Arthroscopy Equipment Trolley
- Multi-Reservoirs Suction unit
- Lateral thigh support
- Operative Site
- Foot stopper
- Gel Pad
- Tourniquet machine
- Gravity Irrigation Tower
- Suction
- Swab rack
- Drip stand for screen
- Scrubbing room
- Main Exit
- Working Table
- Gravity Irrigation Tower
- Suction
- Gel Pad
- Tourniquet machine
- Gravity Irrigation Tower
- Suction
- Swab rack
- Drip stand for screen
- Scrubbing room
- Main Exit
- Working Table
Setting of the Theatre (ACL Reconstruction)

- Anaesthesia Machine
- TV System
- Arthroscopy Equipment Trolley
- Suction
- Working Table
- Basic Tray
- Table for Graft
- Operative Site
- Gel Pad
- Lateral thigh support
- Swab rack
- Screen
- ESU
- Tourniquet
- Gravity Irrigation Tower
-多Reservoirs Suction unit
- Main Exit
- Scrubbing Room
Positioning of Patient
Draping material

- Water proof disposable drape
  - Arthroscopy drape (With Pouch)
  - Extremity drape
Perioperative Nursing Care

- Shaving
  - Recommend to use clipper
- Keep warm (until discharge)
- Scrub nurse should tidy up of the tubing and cables
- Maintain enough irrigation fluid during the surgery
- Keep the irrigation fluid on the floor as less as possible
- Cryocuff application
Most Important Points

- Knowledge
- Team work
- Good preparation
  - Arrangement of the instruments
- Communication
- Smooth running of the operation
Thank You