Orthopaedic Surgery in Post Polio

Anders Stenström, MD PhD
Professor in Orthopaedics

Department of Rehabilitation Medicine
Skåne University Hospital
Lund Sweden
Are orthopedic operations a good alternative to conservative treatment in persons with post polio?
Study material

Consecutive study with 606 persons with post polio referred to the polio team in the Dept. of Rehabilitation, Skåne University Hospital
Due to orthopaedic problems 85 of the 606 persons (49 women, 36 men, mean age 60 and 62 years respectively) were examined by the team and an orthopaedic surgeon at a second visit.
Conservative Treatment or perhaps Operation?
Conservative treatment

Physiotherapy only
Orthosis
Shoes and insoles
Walking stick
Wheelchair
Problems in conservative treatment

Orthoses and Shoes

Does not fit; too large or too small
Shear forces and point pressure
Much too heavy and clumsy
May need adjustments
Wear of clothes and ugly looking
Problems with operation

Weak muscles
Paralysis
Muscle atrophy
Muscle imbalance
Osteoporosis
Skeletal changes
Previous operations
Fractures in Post Polio

Fracture treatment in post polio is generally not a serious problem since conventional operative methods can be used.

In some fractures plaster treatment is preferable.

Post polio persons with fractures are as a rule treated as other healthy persons but postoperative rehabilitation should if possible be performed by post polio rehabilitation specialists.
Disease panorama in the 85 (out of 606) persons with post polio
Previous operations

- Of the 85 persons 14 had been operated at young age

- Nine were operated in the knee
  (meniscus, osteotomy in proximal tibia to correct malalignment of the lower leg)

- Six were operated in the ankle and foot (mainly arthrodesis)
Hip disease

Hip arthrosis (arthritis) 13
Operation with endoprosthesis 3
Success in all 3 but in 1 after reop.
Operation denied 1
Cortisone injection into the joint 1
Physiotherapy incl. walking stick 8
Hip disease

Due to the risk of luxation, operation with total hip arthroplasty demands careful preoperative planning often including EMG, MRI and CT.

Well planned postoperative rehabilitation is mandatory.
Hip disease

Five persons suffered from trochanteritis and were treated with cortison injections locally.

One person had earlier been bilaterally operated for snapping hips with disastrous results feeling that the hips luxated now and then.
Knee disease

- Arthrosis (arthritis) 16 (4)
- Patellar arthrosis and patellar pain 13 (1)
- Hyperextension 14 (-)
- Meniscus lesion 4 (1)
- Instability sideways (varus-valgus) 4 (-)
Knee arthrosis

Four persons were operated (two in both knees) with stabilized total knee endoprosthesis with good results.

High tibial osteotomies (wedge operation in the upper shank) should not be used.

Unicompartmental endoprosthesis should not be used due to instablity and muscle weakness.
Knee arthrosis

Due to severe pain one person was operated with a patellar endoprosthesis (polyethylene on the patellar joint surface and a metal shield on the femoral condyles).

All other persons with patellar problems were treated with physiotherapy and/or orthosis.
Knee hyperextension

Due to muscular weakness the knee has a tendency to give away, i.e. without warning the knee suddenly bends and the person falls to the ground.

To avoid this, the post polio person tries to force the knee joint backwards which with time creates hyperextension.

Operation should be avoided. Orthosis is recommended.
Knee hyperextension

- In total 19 persons suffered from more or less severe hyperextension.
- Seven of the 19 persons were treated with an orthosis preventing hyperextension more than 5 degrees.

The rest were treated with physiotherapy.
Foot and Ankle Disease

Ankle instability 9
Ankle arthrosis 1
Midfoot arthrosis 5
Pronounced weakness in dorsiflexion or drop foot 20
Cavus foot (high arch) 5
Foot and Ankle Disease

No operation was performed

Special shoes and insoles  27

Drop foot orthosis (Toe Off, Navigation, Dictus band, ASO, stiff AFO etc.)  18
Summary

Orthopaedic operations can successfully be performed in persons with post polio syndrome.

Very strict indications must be followed.

Postoperative rehabilitation must be carefully planned.
Summary

The great majority of post polio persons with orthopaedic problems can successfully be treated with physiotherapy.

In many situations special orthosis, insoles and shoes are valuable complements to physiotherapy.
Thank you for your attention