SPINA BIFIDA AND ORTHOPAEDICS

PAULO SELBER
SPINA BIFIDA AND ORTHOPAEDICS

DEFINITION OF AN ORTHOPAEDIC SURGEON

STRONG AS AN OX AND TWICE AS SMART!
SPINA BIFIDA AND ORTHOPAEDICS

FUNCTIONAL LEVELS X GAIT PROGNOSIS

THORACIC  NO POWER
HIGH LUMBAR  Hip Flx + Add + Quad
LOW LUMBAR  Hams + T. Ant
SACRAL  Triceps + Hip Abd
SPINA BIFIDA AND ORTHOPAEDICS

FUNCTIONAL LEVELS X PROGNOSIS

“ALL GOING WELL”
<table>
<thead>
<tr>
<th>Functional Levels</th>
<th>Prognosis</th>
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</thead>
<tbody>
<tr>
<td>Thoracic</td>
<td>Comfortable sitting</td>
</tr>
<tr>
<td>High Lumbar</td>
<td>&quot;Walks&quot; up to 10 yo, then comfortable sitting</td>
</tr>
<tr>
<td>Low Lumbar</td>
<td>Walks AFOs + Crutches</td>
</tr>
<tr>
<td>Sacral</td>
<td>AFOs +/− Crutches</td>
</tr>
</tbody>
</table>
SPINA BIFIDA AND ORTHOPAEDICS
WHAT CAN GO “WRONG”? THORACIC
KYPHOSCOLIOSIS
HIP ABDUCTION CONTRACTURES
KNEE FLEXION DEFORMITIES
PRESSURE SORES
TETHERED CORD SYNDROME
SPINA BIFIDA AND ORTHOPAEDICS
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SPIANA BIFIDA AND ORTHOPAEDICS
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HIP FLEXION ADDUCTION CONTRACTURES
KNEE FLEXION DEFORMITIES
CAVO VARUS DEFORMITIES
PRESSURE SORES
SPINA BIFIDA AND ORTHOPAEDICS

GAIT PATTERNS

LOW LUMBAR

CROUCH GIVEN THAT THERE IS NO

PLANTAR FLEXION POWER
SPINA BIFIDA AND ORTHOPAEDICS

GAIT PATTERNS

SACRAL

MILD CROUCH GIVEN THAT THERE IS SOME PLANTAR FLEXION POWER
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LUMBAR LEVELS

SOLID AFOs
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SACRAL LEVELS

SOLID AFOs

SOMETIMES HINGED AFOs
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LONG TERM GAIT PROGNOSIS

LUMBAR LEVELS

- PLANTIGRADE FLAIL BRACEABLE FEET
- KNEE FLEXION DEFORMITIES
- HIP FLEXION ABDUCTION/ADDITION
- HIP INTERNAL ROTATION WITH TIBIAL EXTERNAL TORSION
- BODY MASS
SPINA BIFIDA AND ORTHOPAEDICS

LONG TERM GAIT PROGNOSIS

SACRAL LEVELS

PLANTIGRADE FLAIL BRACEABLE FEET

KNEE FLEXION DEFORMITIES ?

EXTERNAL TIBIAL TORSION

HIP ENLOCATION STATUS?
SPINA BIFIDA AND ORTHOPAEDICS

HIPS IN SPINA BIFIDA
TRY AND LEAVE THEM ALONE
BUT KEEPING THEM MOBILE AND NOT STIFF SO THAT SITTING IS POSSIBLE

SACRAL LEVEL
TRY AND KEEP THEM ENLOCATED PERHAPS
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KNEES IN SPINA BIFIDA

LUMBAR AND SACRAL LEVELS

TRY AND KEEP FULL EXTENSION RANGE
SPINA BIFIDA AND ORTHOPAEDICS

FEET AND TIBIAE IN SPINA BIFIDA
LUMBAR AND SACRAL LEVELS

FEET IN FRONT OF KNEES
FLAIL/FLEXIBLE PLANTIGRADE
BRACEABLE
SPINA BIFIDA AND ORTHOPAEDICS

FEET

NO SKIN SENSATION

FIXED DEFORMITIES

EXCESSIVE LOADING

PRESSURE SORES

OSTEOMYELITIS

 AMPUTATION
SPINA BIFIDA AND ORTHOPAEDICS

FEET

FLEXIBILITY IS CRUCIAL FOR BRACING ABILITY

BONY FUSIONS DO NOT ADD ANY EXTRA FLEXIBILITY RATHER STIFFNESS
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GAIT ANALYSIS CAN HELP WITH LOW LUMBAR AND SACRAL GAIT CORRECTION
SPINA BIFIDA AND ORTHOPAEDICS
SPINA BIFIDA AND ORTHOPAEDICS
THANK YOU