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AMNIOTIC BAND SYNDROME

Damon Thomas

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Amniotic Band Syndrome

- Characterised by partial or complete circumferential constrictions around limbs or digits

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Amniotic Band Syndrome

- AKA
  - Constriction ring syndrome
  - Amniotic disruption sequence

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Aetiology

- 1. Amniotic disruption with release of amniotic bands – encircle and strangulate

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Aetiology

- 1. Amniotic disruption with release of amniotic bands – encircle and strangulate

- 2. Limb becomes entrapped within ruptures of the amniotic wall

Aetiology

- 1. Amniotic disruption with release of amniotic bands – encircle and strangulate
- 2. Limb becomes entrapped within ruptures of the amniotic wall
- 3. Intrinsic disruption
  - Error in formation of subcutaneous tissue
  - Vascular insult

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Amniotic Band Syndrome

- Classification
  - I Simple constriction rings

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Amniotic Band Syndrome

- Classification
  - I Simple constriction rings
  - II Rings accompanied by distal deformity

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Amniotic Band Syndrome

- Classification
  - I Simple constriction rings
  - II Rings accompanied by distal deformity
  - III Rings accompanied by distal fusion – acrosyndactyly
    - Type 1 Tips are joined
    - Type 2 Tips are joined, webs distal
    - Type 3 Tips are joined, no web. Complex syndactyly with proximal sinus

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Amniotic Band Syndrome

- Classification
  - I Simple constriction rings
  - II Rings accompanied by distal deformity
  - III Rings accompanied by distal fusion – acrosyndactyly
    - Type 1 Tips are joined
    - Type 2 Tips are joined, webs too distal
    - Type 3 Tips are joined, no web. Complex syndactyly with proximal sinus
  - IV Amputation

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Non – limb Sequelae

- Facial clefting ?

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Non – limb Sequelae

- Facial clefting ?

- Strong association with clubfoot – 31%

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Treatment of the threatened limb / digit

- A proximal ring may cause overt distal ischaemia

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Treatment of the threatened limb / digit

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- Survival of the limb / digit is questionable - ? Salvage ? Amputate

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Treatment of the threatened limb / digit

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- Surgical release can be done as a neonate or in utero

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Treatment of the threatened limb / digit

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  - In utero
    - Fetoscopic band release

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Treatment of the threatened limb / digit

- A proximal ring may cause overt distal ischaemia
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- Surgical release can be done as a neonate or in utero
  - In utero
    - Fetoscopic band release
    - Surgical band release

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Treatment of the Band

- Treatment aimed at functional and aesthetic

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Treatment of the Band

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- 1. Excision of the ring and subcutaneous tissue with Z or W plasty

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Treatment of the Band

- Treatment aimed at functional and aesthetic

- 1. Excision of the ring and subcutaneous tissue with Z or W plasty

- 2. Direct ring excision with
  - Adipofacial double breasted flaps
  - Straight line skin closure

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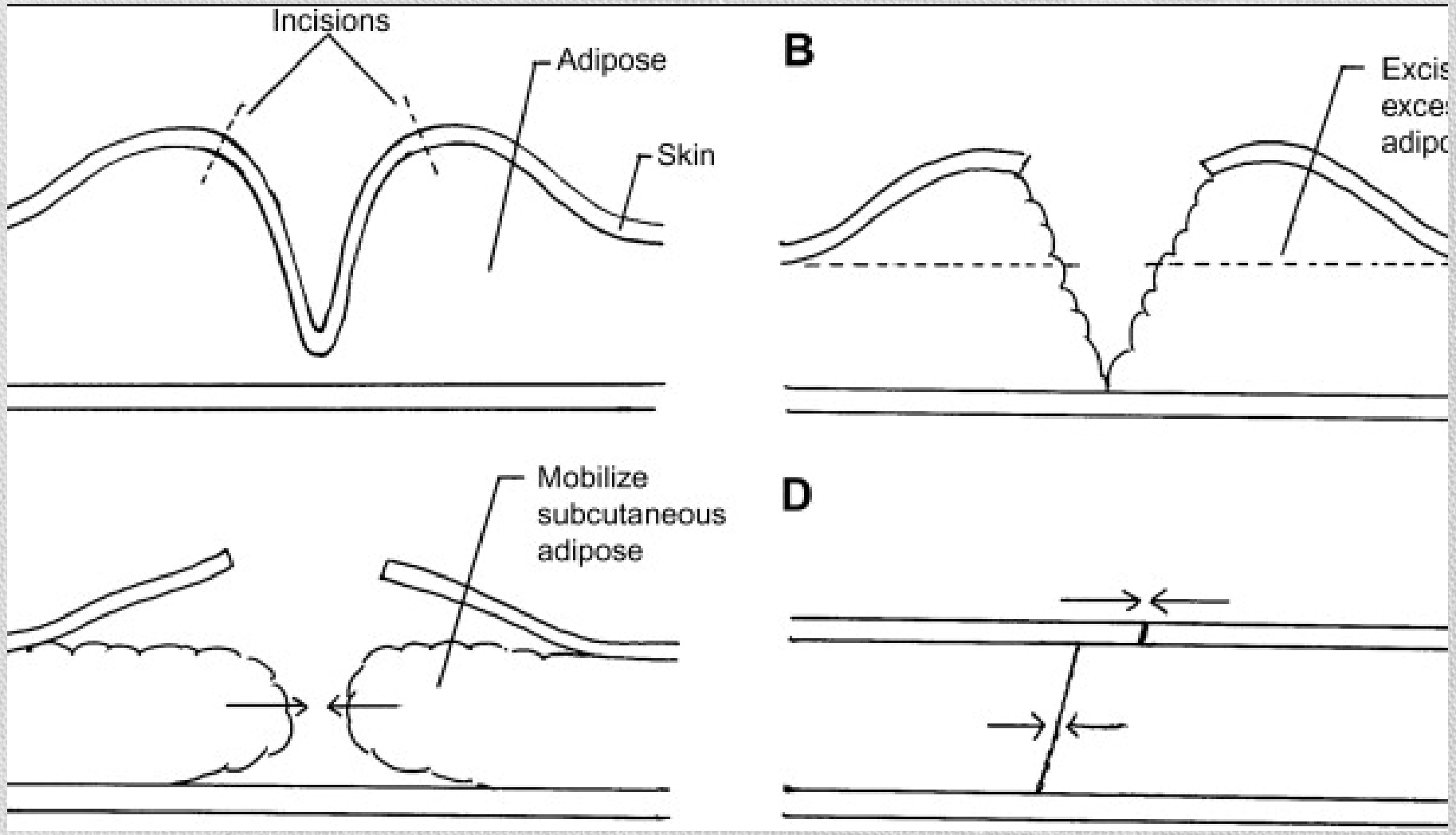

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Controversies with Surgical Release

- Staged release

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Controversies with Surgical Release

- Staged release
  - Half the circumference

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Controversies with Surgical Release

- Staged release
  - Half the circumference
  - Single band of two

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Controversies with Surgical Release

- Staged release

- Single staged complete circumferential release

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Management of Other Sequelae

- Acrosyndactyly - based on the deformity

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Nerve palsies

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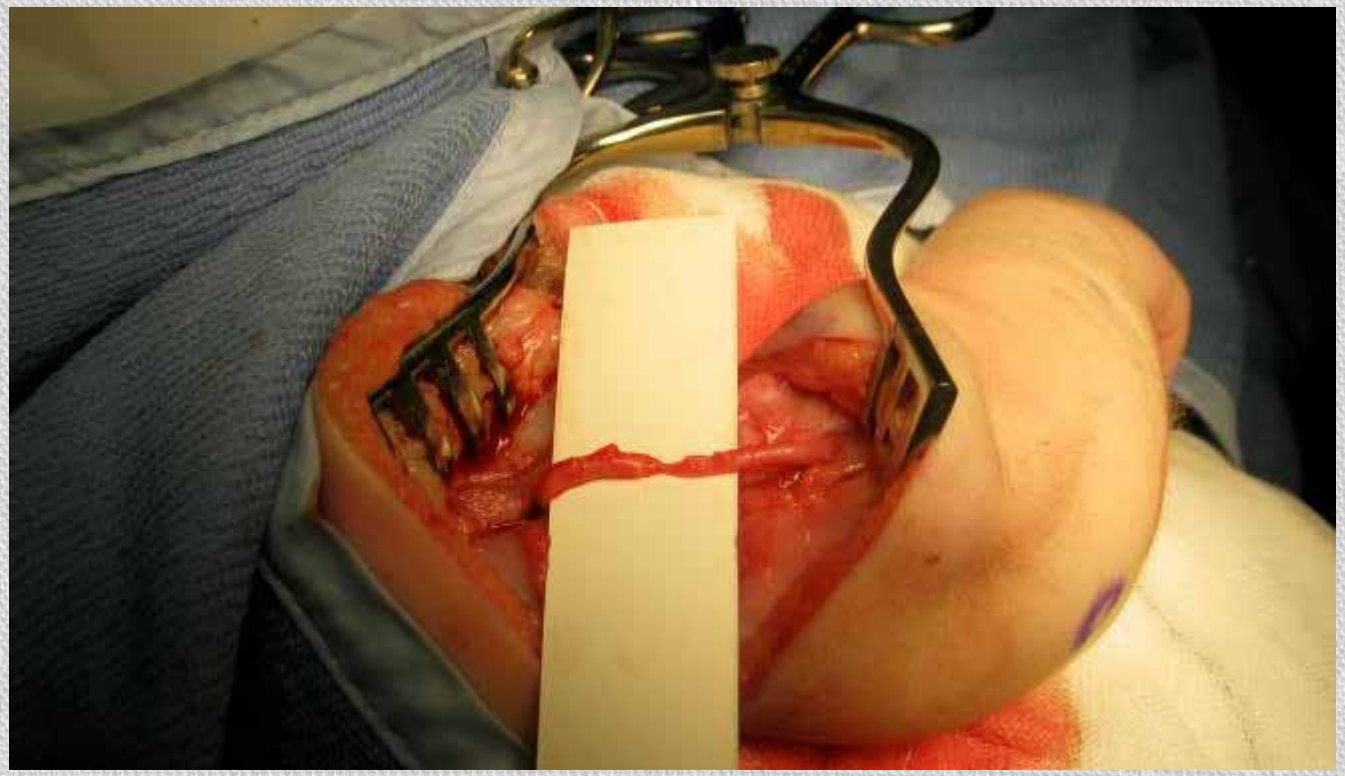
Nerve palsies

- Early exploration and nerve reconstruction



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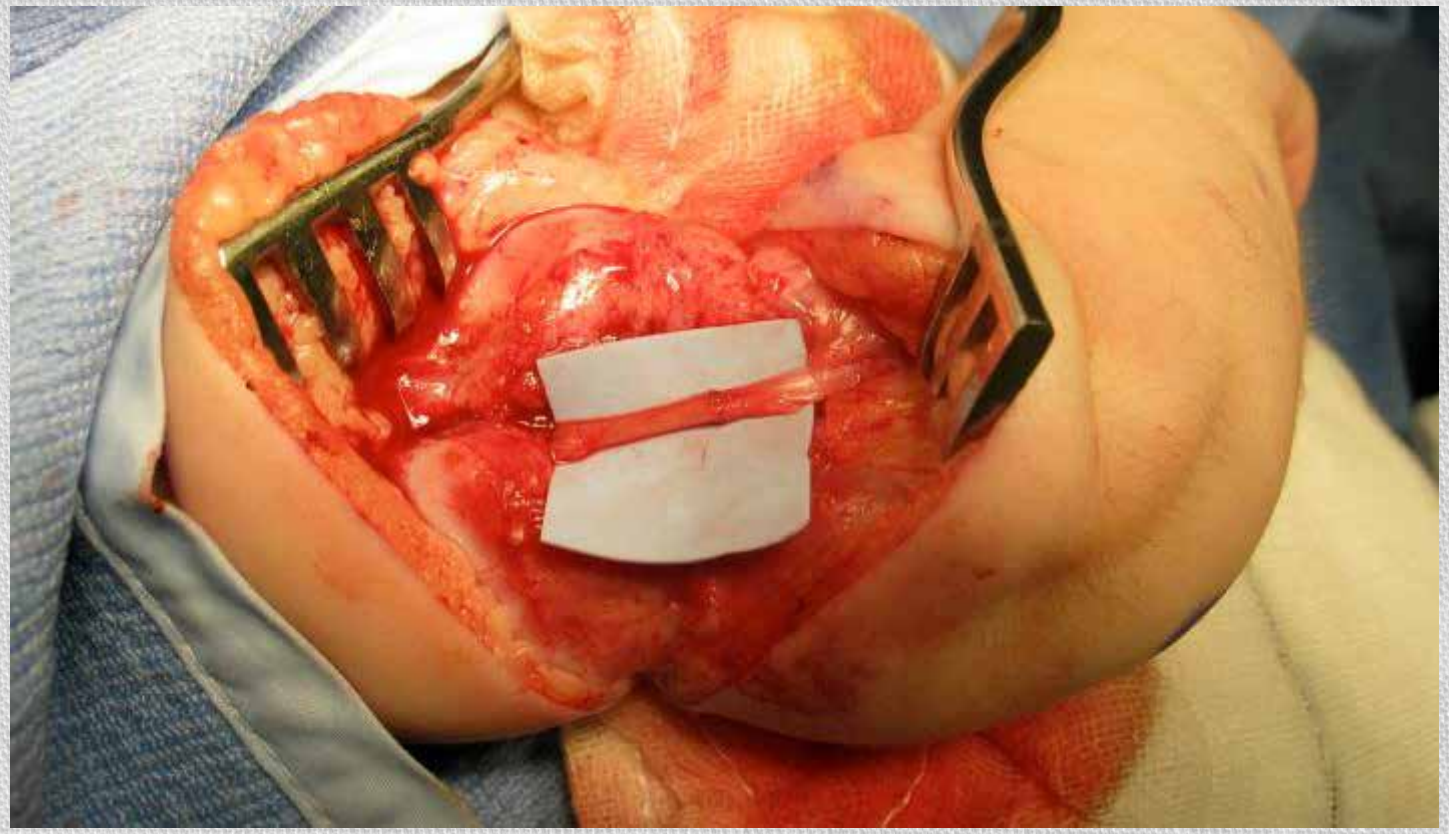
Nerve palsies

- Early exploration and nerve reconstruction



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Nerve palsies

- Early exploration and nerve reconstruction

- Case reports of absent nerve distal to the constriction

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Amputation

- Proximal structures normally present

Figure 40.72 Normal structures are present proximal to the constriction ring. The intrinsic muscles, flexor tendons, and neurovascular structures are identifiable.

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Amputation

- Proximal structures normally present
- ? Toe to hand transfer

Figure 40.72 Normal structures are present proximal to the constriction ring. The intrinsic muscles, flexor tendons, and neurovascular structures are identifiable.

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Amputation

- Proximal structures normally present
- ? Toe to hand transfer
- Feet can also be affected

Figure 40.72 Normal structures are present proximal to the constriction ring. The intrinsic muscles, flexor tendons, and neurovascular structures are identifiable.

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