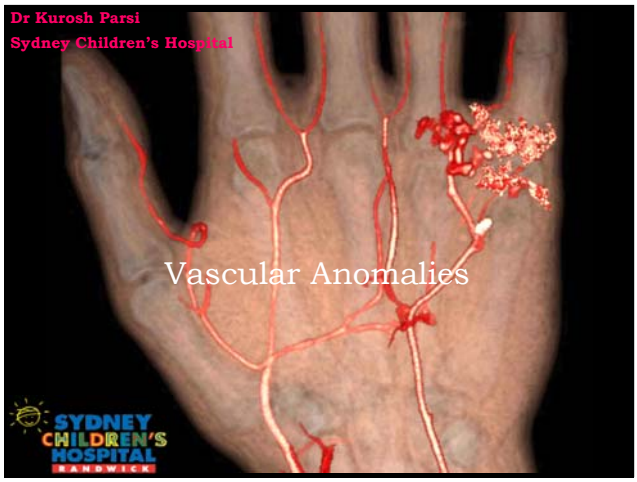


ISSVA Classification

International Society for the Study of Vascular Anomalies

ISSVA

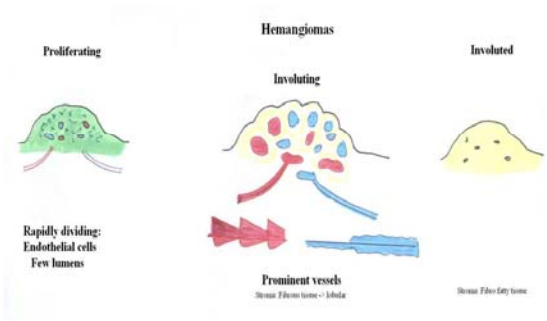
Tumours	Malformations	
	Simple	Combined
Haemangioma	Capillary (C)	Arteriovenous fistula (AVF)
Other Tumours	Lymphatic (L)	AVM
	Venous (V)	CVM
		CLVM
		LVM
		CAVM
		CLAVM

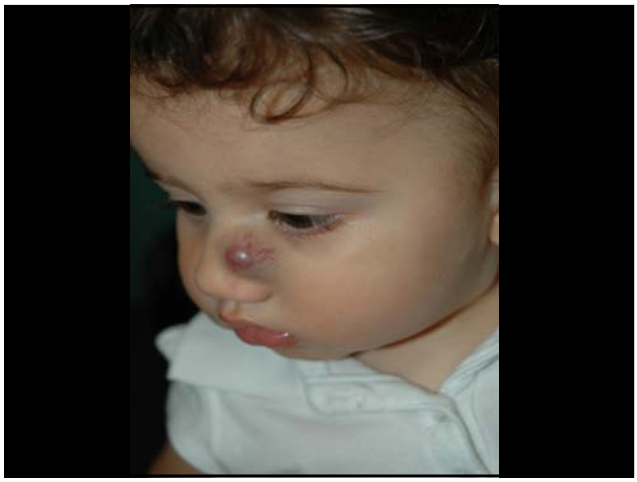
Scientific Committee of the Eleventh Meeting of the International Society for the Study of Vascular Anomalies (ISSVA), Rome, Italy 1996

Haemangioma of Infancy

- Natural history:
  - Not present at birth
  - More prominent days to weeks after birth
    - **Proliferate over ~6 months**
    - **Most growth complete by 4mo**
  - Involution at 9-12 months
  - Residual fibrofatty tissue after involution
  - Can cause significant complications

Hemangioma of Infancy





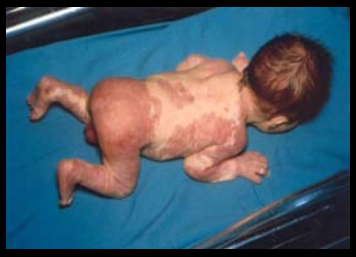
Vascular Malformation

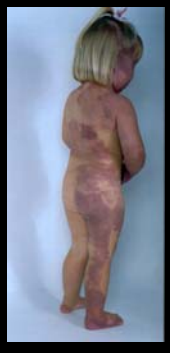
- Present at birth
- Usually grow in proportion to child
- Never regress

Capillary Malformations

(Old term: Port wine stain)

Capillary Malformation





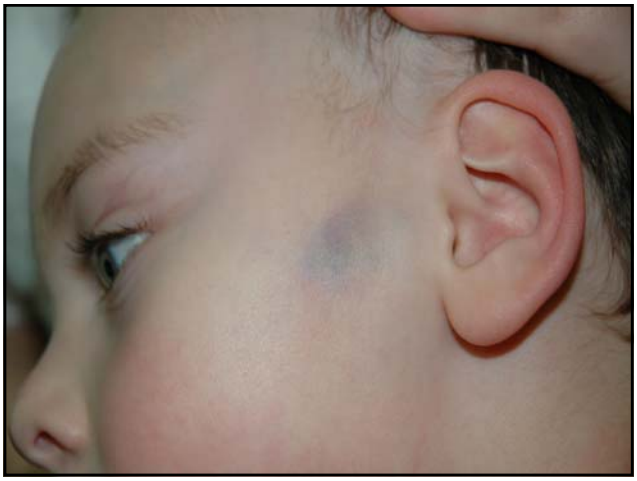
Venous Malformations

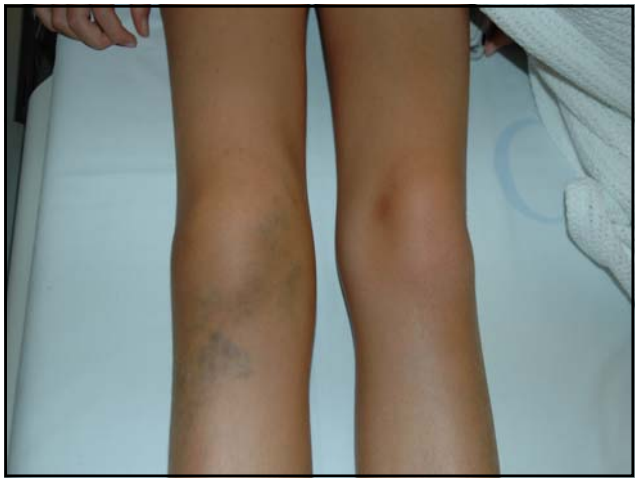
Venous Malformations

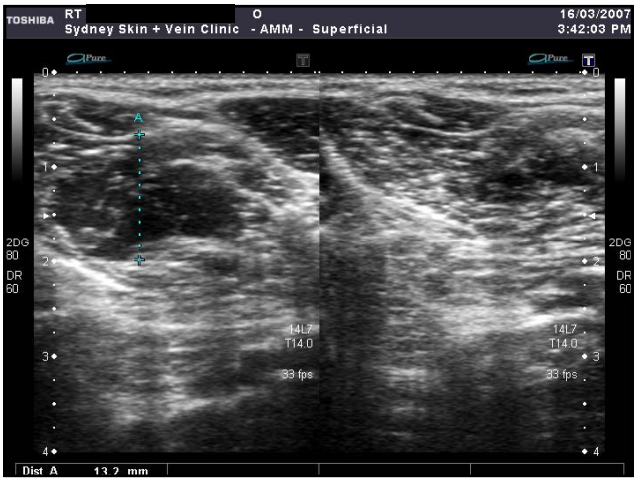
- Truncular
  - IVC Anomalies
  - Primary venous aneurysms
- Extra-truncular
  - Intra-dermal
  - SC fat
  - Intra-muscular
  - Intra-articular
  - Deep within other organs

Complications

- STP → DVT → PE
  - When extensive positive d-dimers
- Involve important structures
  - Airways
  - Eyes → extension to brain
  - Perineum
  - Intra-articular
- Chronic venous hypertension → LDS → Ulcers
- Limb hypertrophy



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Sydney Skin + Vein Clinic - AMM - Superficial
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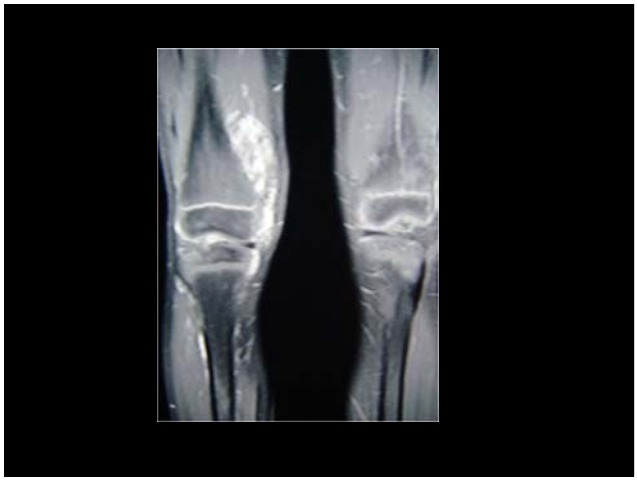

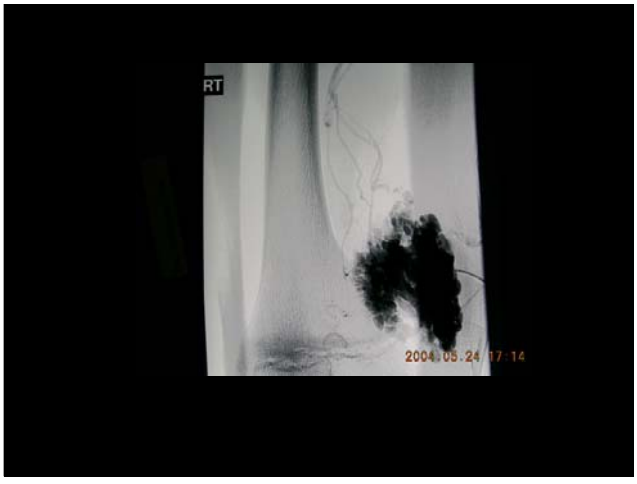
RT
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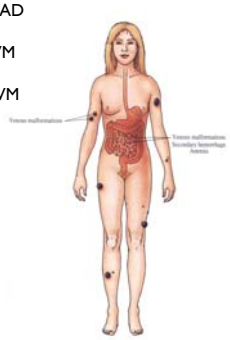
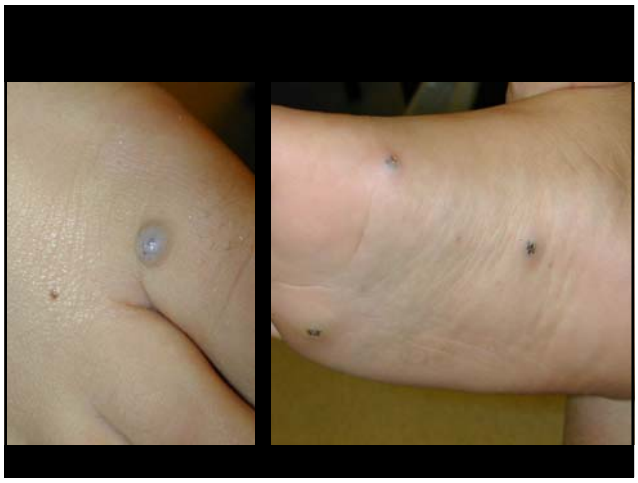
Phlebectatic Venous Malformations

Blue Rubber Bleb (BRB) Syndrome

- Inherited AD
- Multiple VM
- DD of GVM

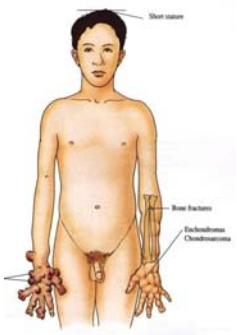


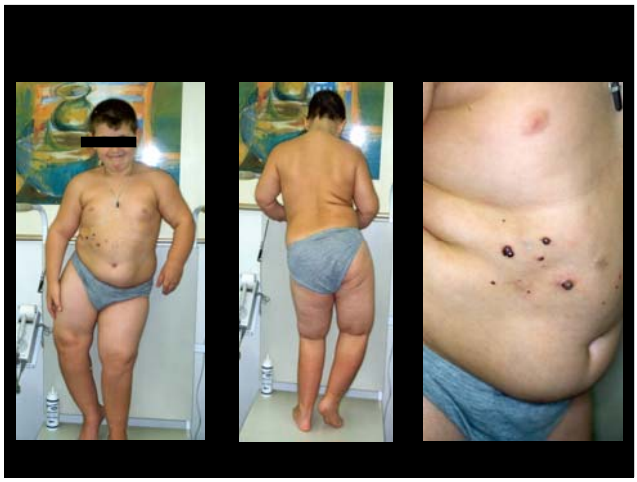
- Multiple cutaneous and GI lesions
- GI Lesions
  - Bleed causing Fe def
  - GI infarction
- Spontaneous thrombosis
- Other organs involved:
  - Brain, heart, lung, nasopharynx

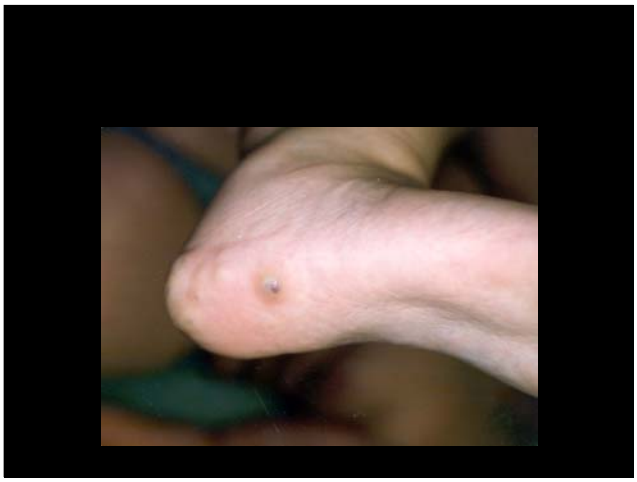


Maffucci Syndrome

- VM, AVM
- Enchondromas
- Bony abnormalities
  - Usually asymmetric
  - Cause secondary fractures

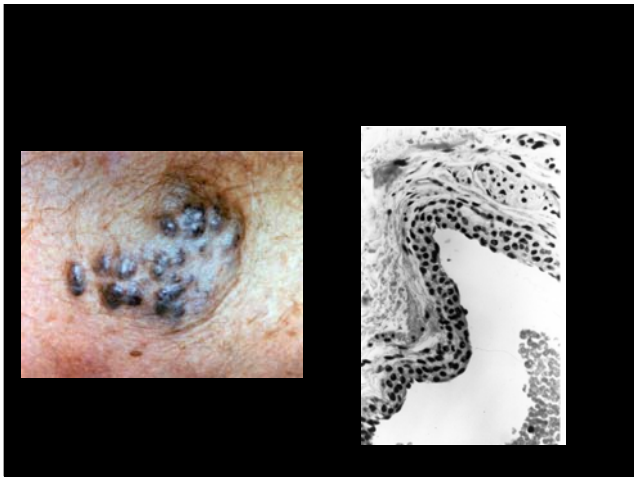




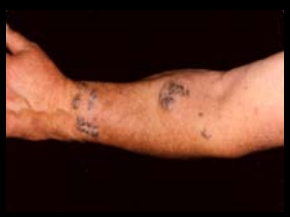


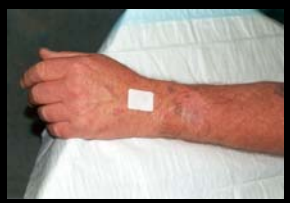
Glomovenous Malformations

- Arise from glomus cells (Smooth m. origin)
- Glomus bodies
  - AV shunts located acrally
  - Thermoregulatory receptors



Pre and Post Sclerotherapy





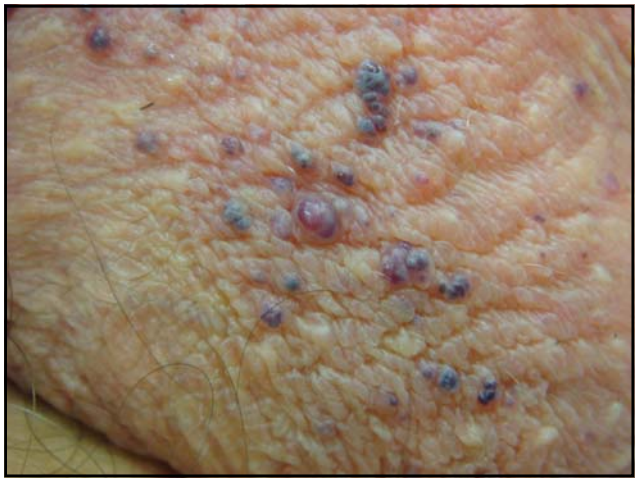
Lymphatic Malformations

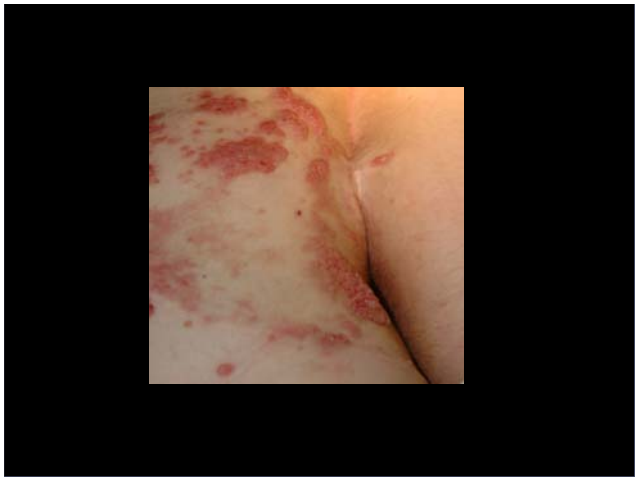
Lymphatic Malformations

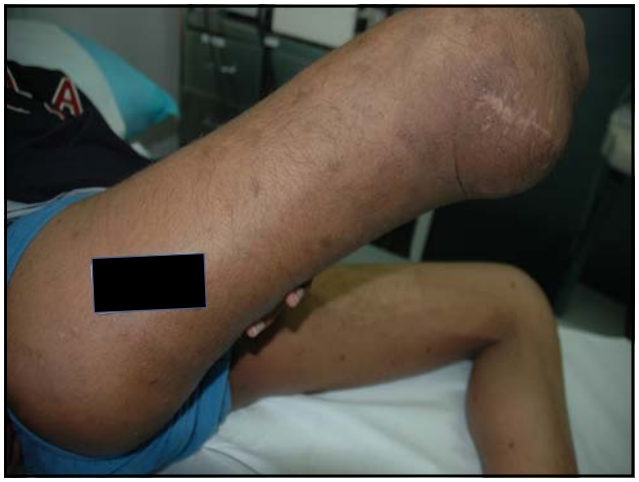
- Truncular
  - Presents as primary lymphodema
- Extra-truncular
  - Macrocystic
  - Microsystic

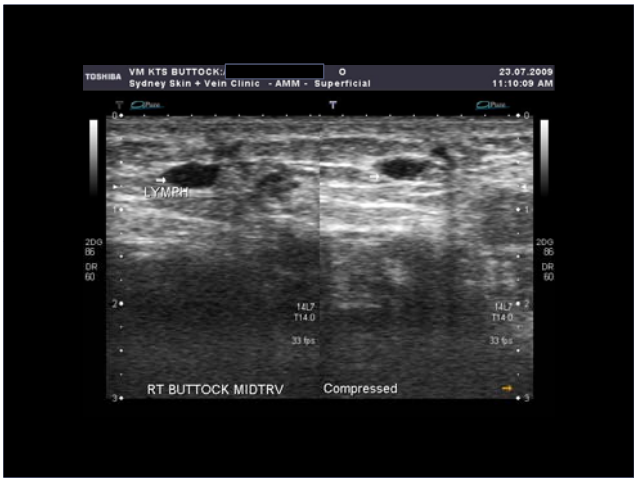
Lymphatic Malformations

- Cutaneous complications
  - Lymphoedema
  - Papillomatosis
  - Infection
  - Bleeding
  - Thrombosed lesions





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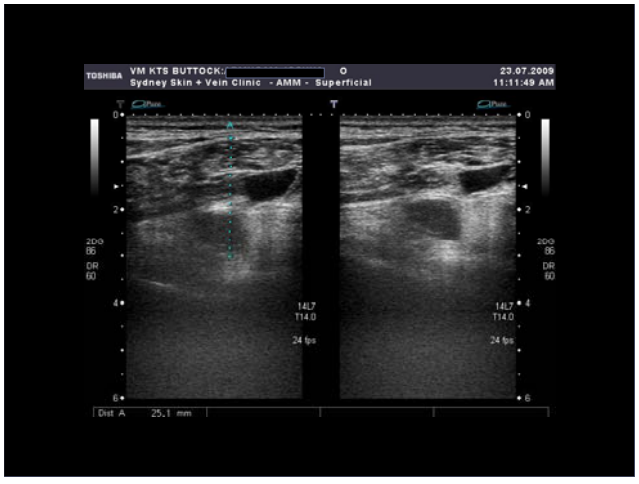
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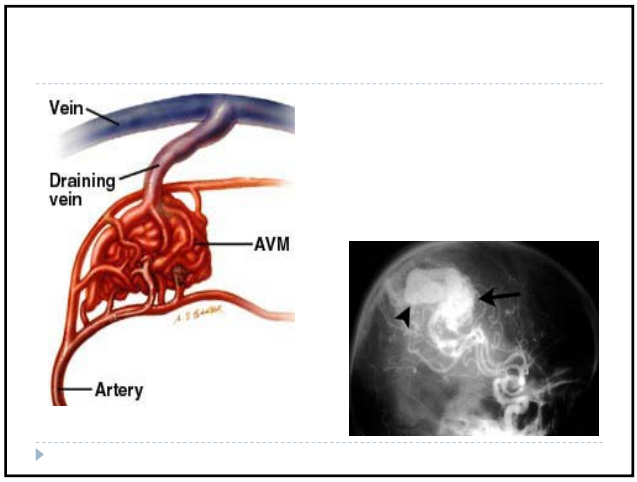
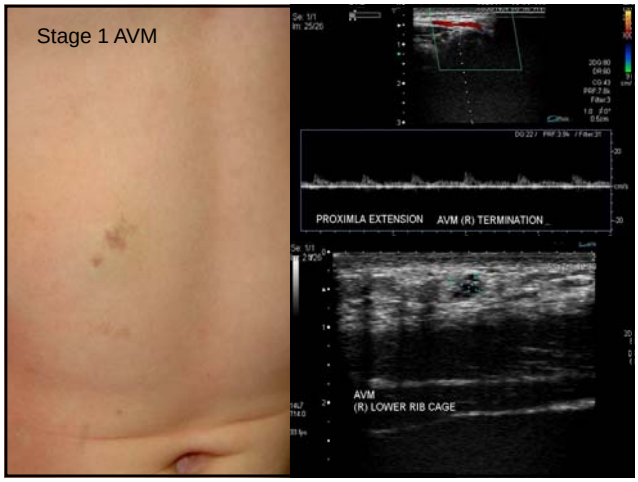
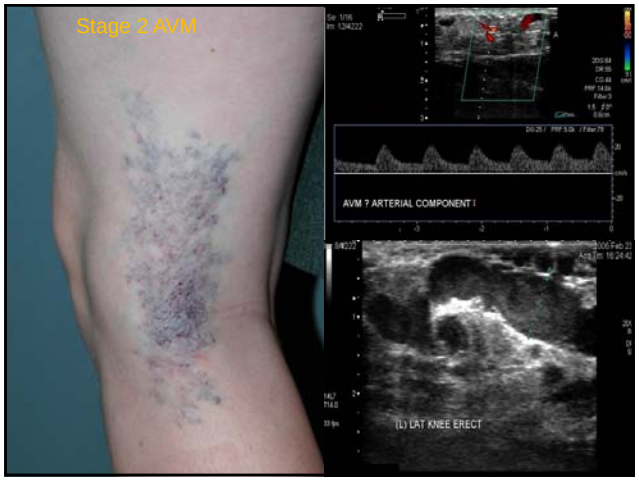
Dist A 25.1 mm


Arteriovenous Malformations


Vein
Draining vein
AVM
Artery

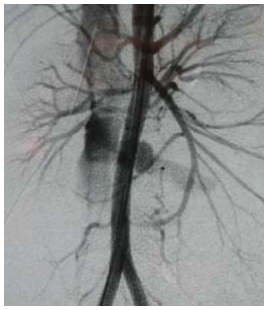

Stage 1 AVM
PROXIMLA EXTENSION
AVM (R) TERMINATION
AVM
(R) LOWER RIB CAGE


Stage 2 AVM
AVM ? ARTERIAL COMPONENT
(L) LAT KNEE ERECT


Stage 3 AVM

AVM

- Chronic Aorto-Caval fistulae
  - Bilateral severe 'varicose veins'
  - Arterial flow in veins
  - 'Machinery' abdominal murmur
  - Abdominal pain, haematuria
- May lead to
  - Limb/tissue hypertrophy
  - Tachycardia
  - Skin atrophy, ulceration



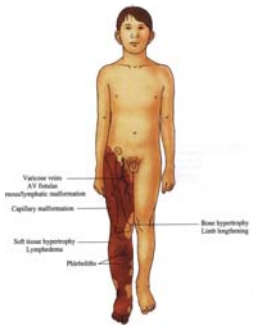
Complex Malformations

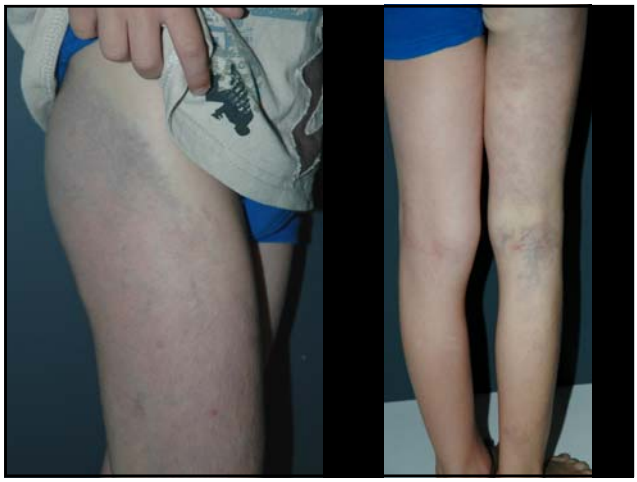
Complex Malformations

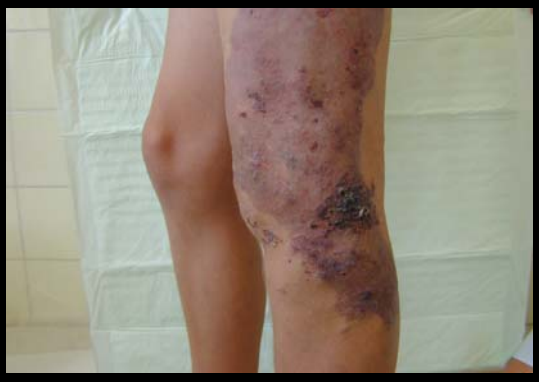
- Klippel Trenaunay Syndrome
  - C + V + L
- Parkes Weber Syndrome
  - C + V + A + L

KTS

- Commonly presents as 'varicose veins'
- Present at birth
- Usually unilateral
- Single limb
- An arm and a leg on the same side



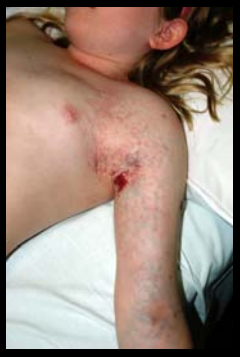




Courtesy of Prof Hugo Partsch

Parkes Weber Syndrome

CLAVM



QUIZ

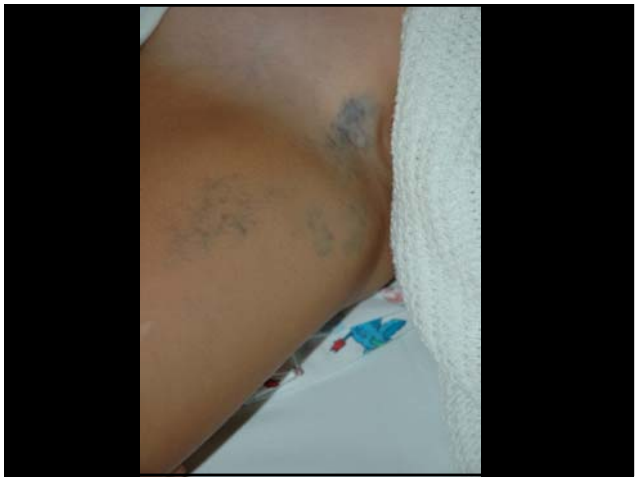
- Guess the malformation from the ultrasound images

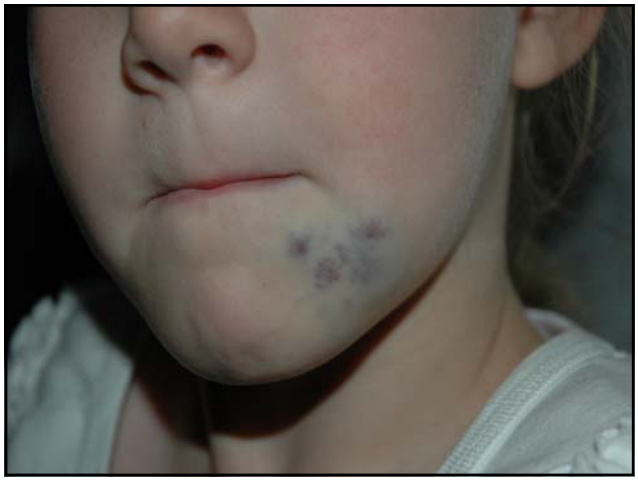
Vascular Malformations

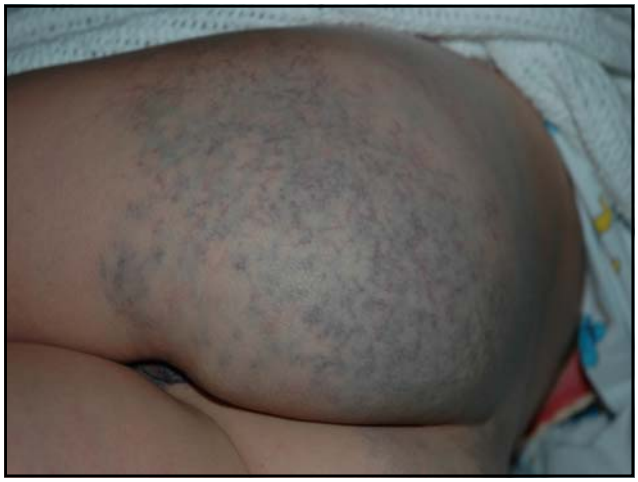
- Normal structures; abnormal function
- Error of morphogenesis (4th-10th week)
- Not present at birth
- Grow proportionately to the child
- 90% involute by the age of 9

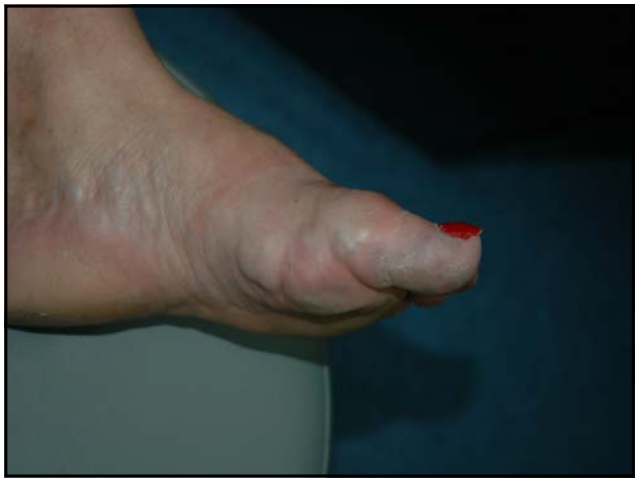
Doppler Findings

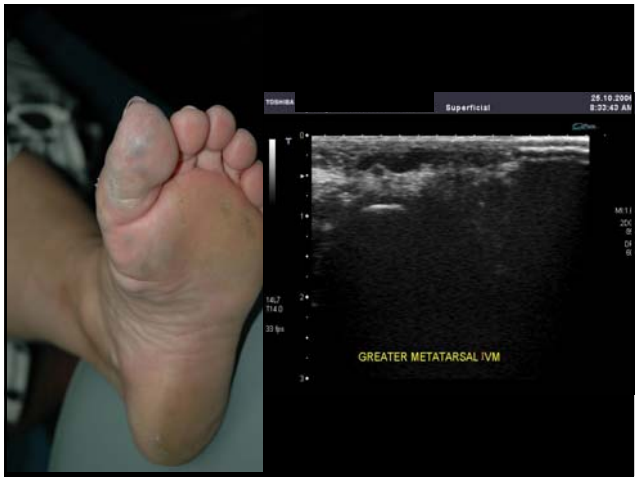
- High Flow lesions
  - Haemangiomas
  - Venous
  - AVM
  - Lymphatic
  - AVF
  - Capillary

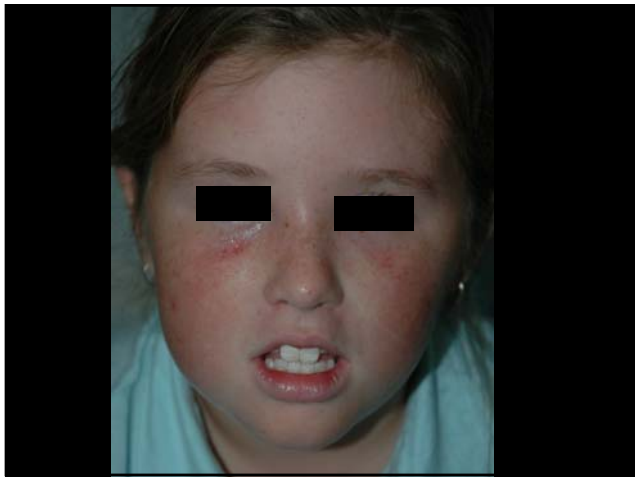


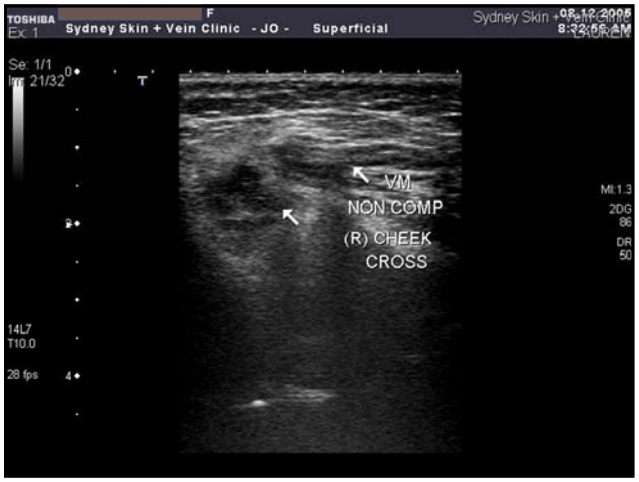


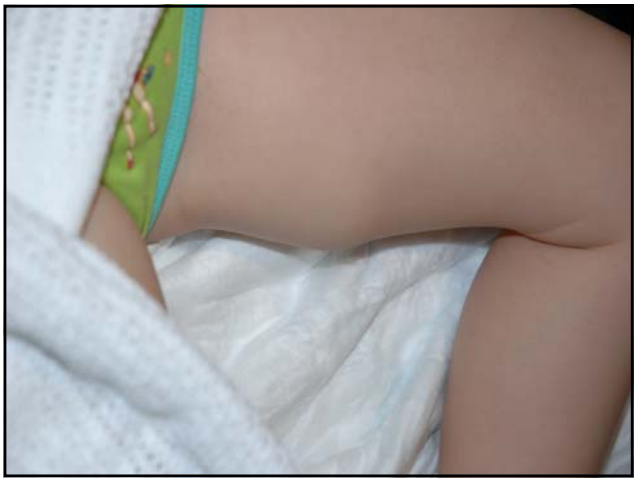


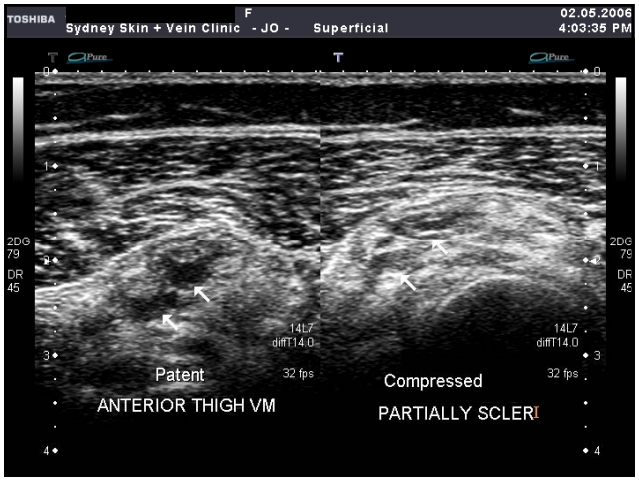



Superficial
GREATER METATARSAL IVM




TOSHIBA
Sydney Skin + Vein Clinic - JO - Superficial
VM
NON COMP
(R) CHEEK
CROSS

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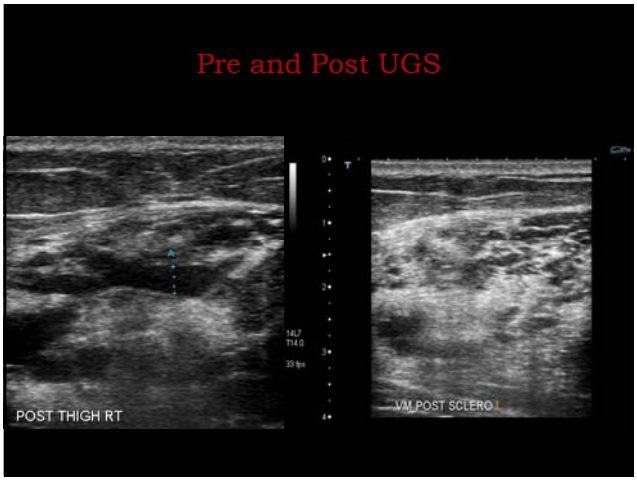
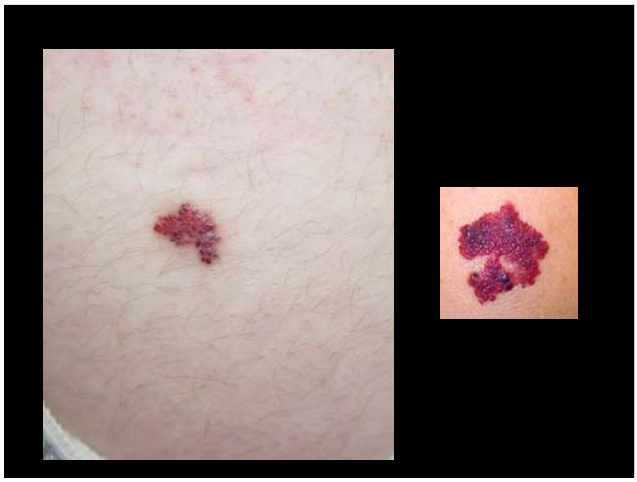
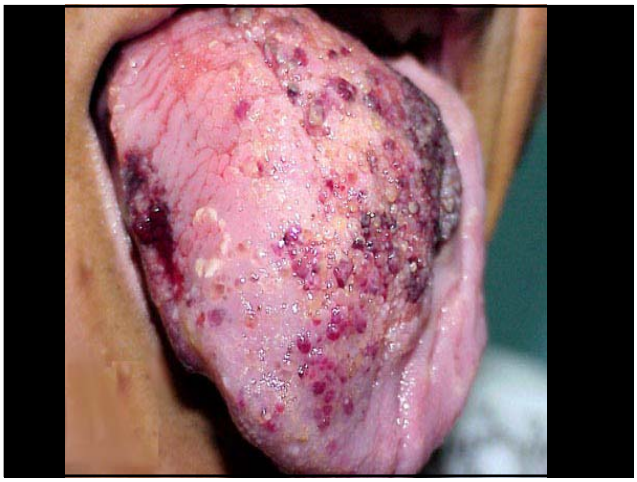
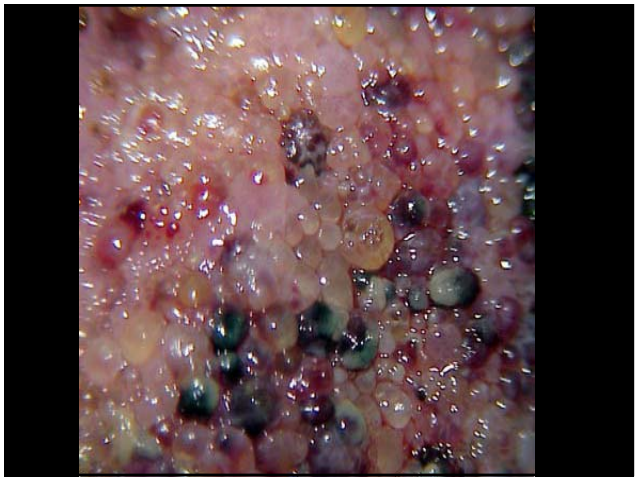
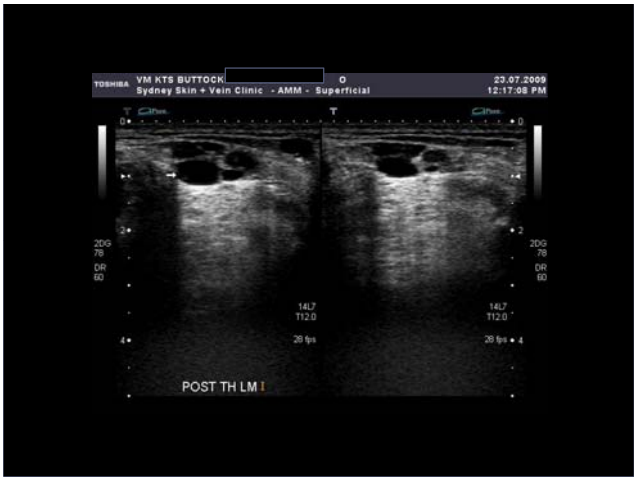

Pre and Post UGS
POST THIGH RT
VM POST SCLERO





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Sydney Skin + Vein Clinic - AMM - Superficial
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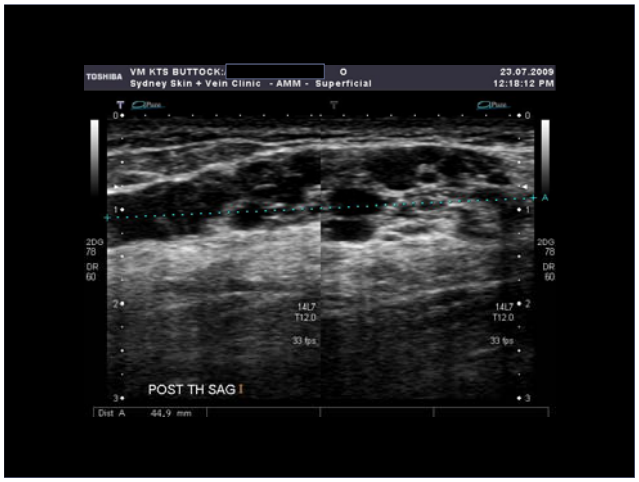
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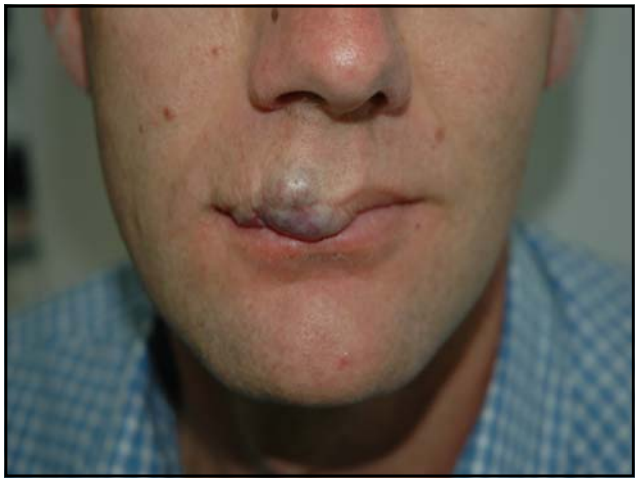

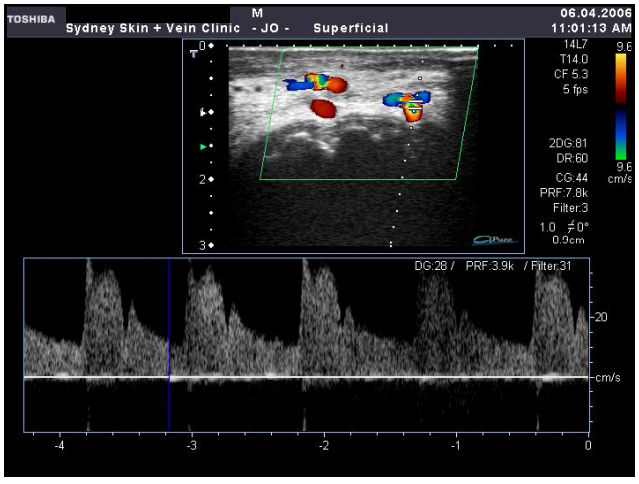
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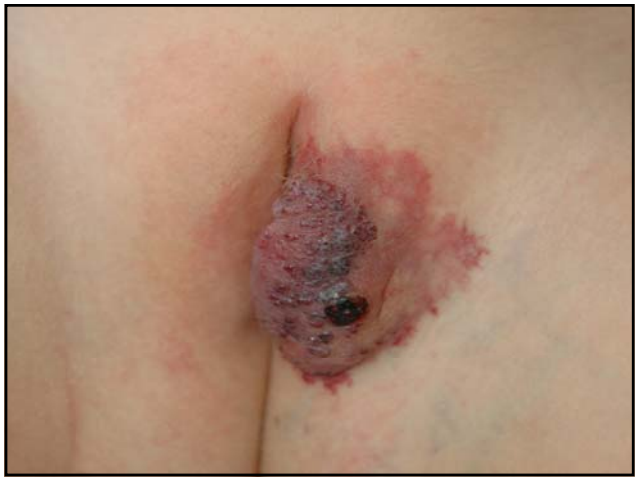
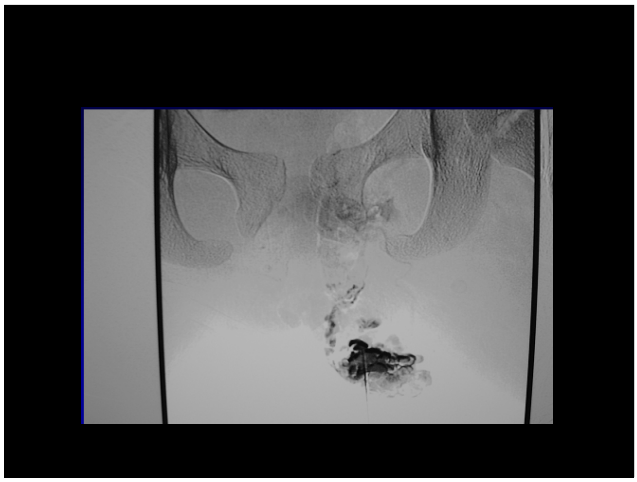
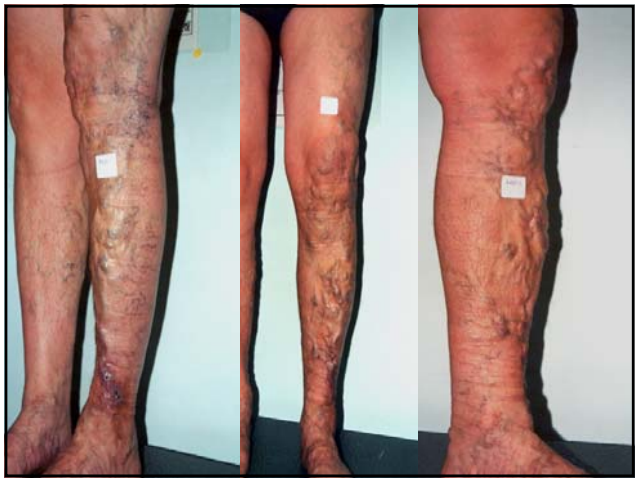
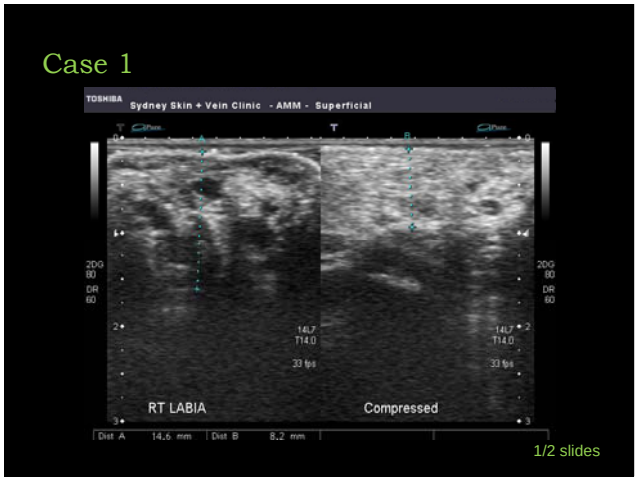
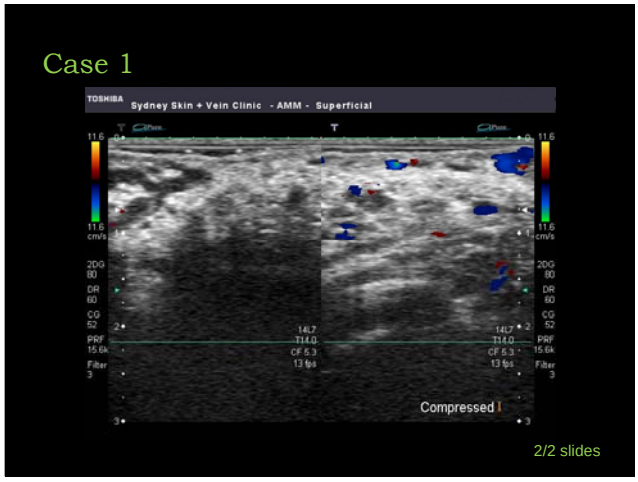


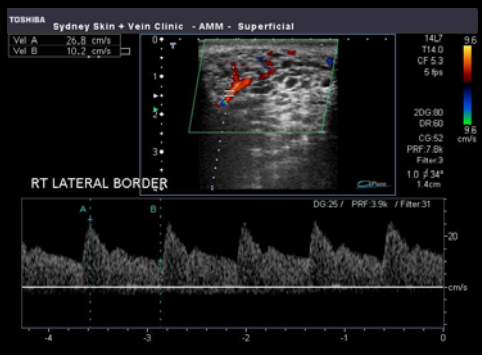





Case 1
TOSHIBA
Sydney Skin + Vein Clinic - AMM - Superficial
RT LABIA
Compressed
1/2 slides

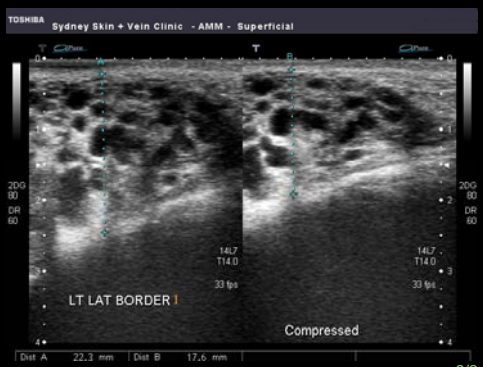

Case 1
TOSHIBA
Sydney Skin + Vein Clinic - AMM - Superficial
Compressed
2/2 slides

Case 2



1/3 slides

Case 2

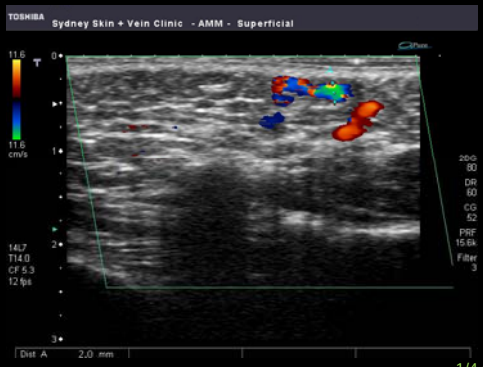


2/3 slides

Case 2

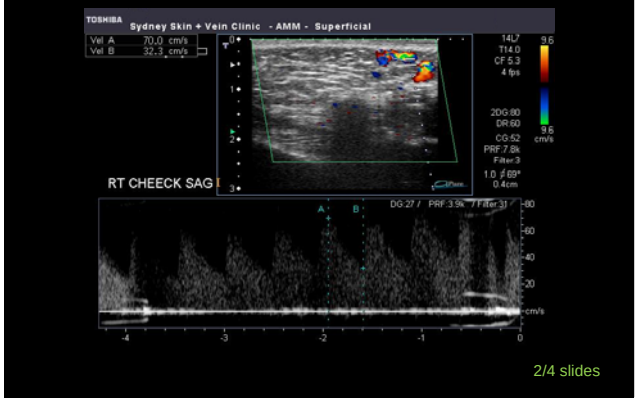
3/3 slides

Case 3



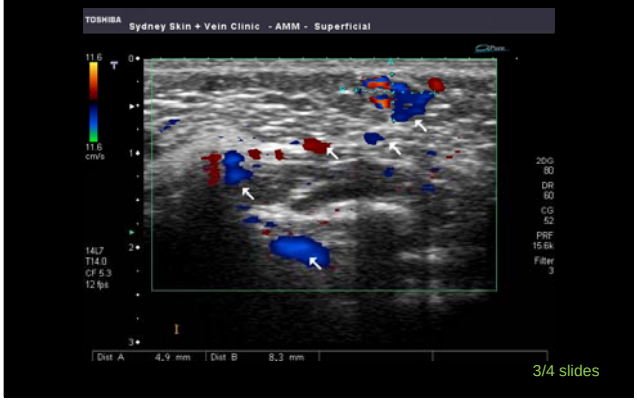
1/4 slides

Case 3



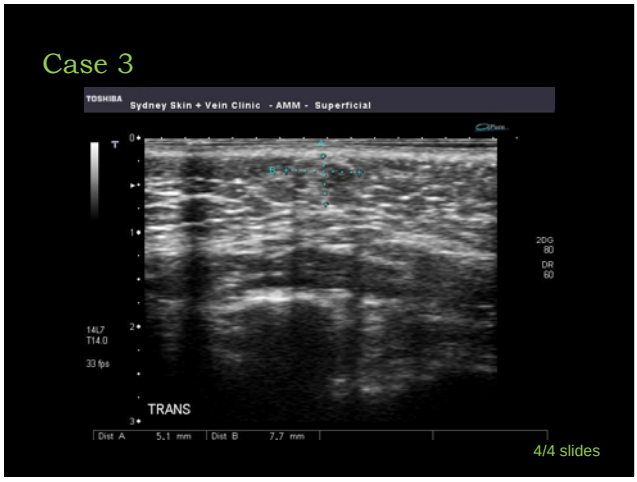
2/4 slides

Case 3



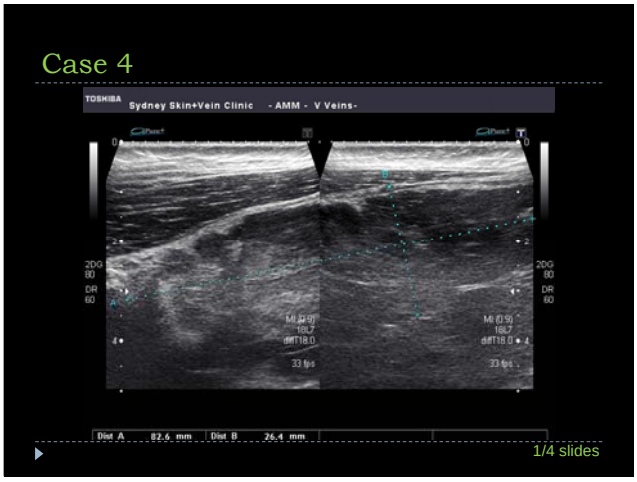
3/4 slides

Case 3



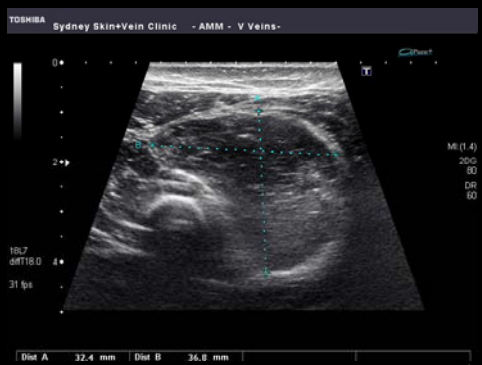
4/4 slides

Case 4



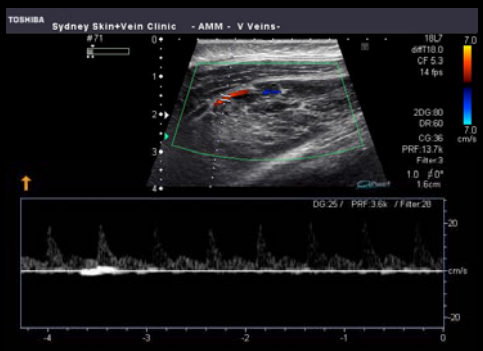
1/4 slides

Case 4



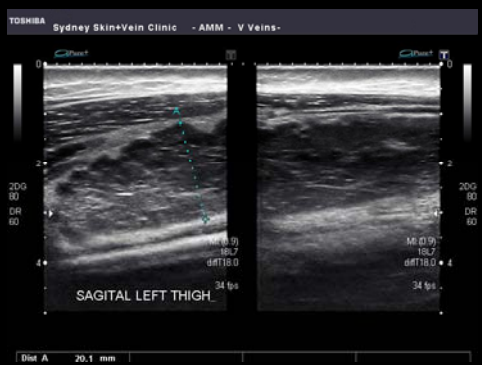
2/4 slides

Case 4



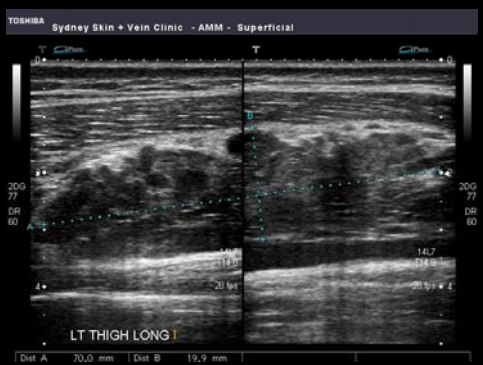
3/4 slides

Case 4



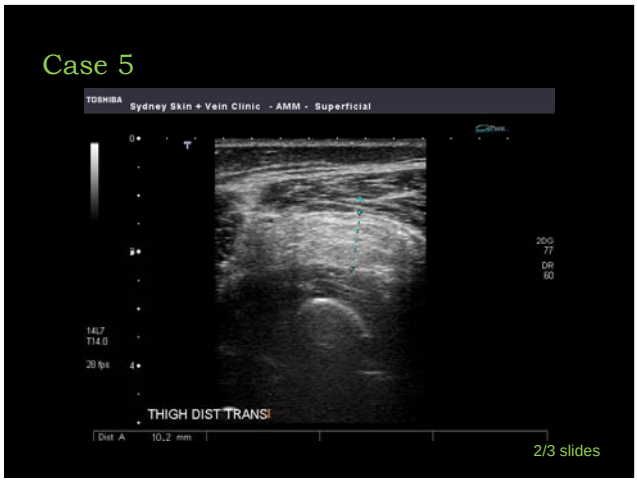
4/4 slides

Case 5



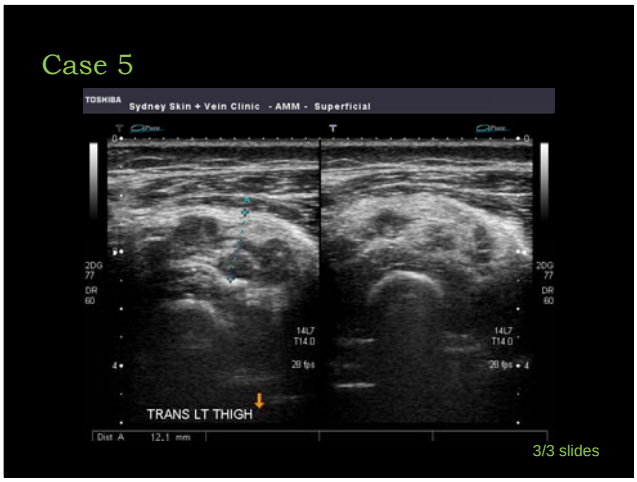
1/3 slides

Case 5



2/3 slides

Case 5



3/3 slides