



EAST AFRICAN SNAKEBITE SYMPOSIUM 26 June

Response-Med
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SNAKEBITE
INITIATIVE

Surgical Intervention and Wound Management Following Snakebites : From beginning to end



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Overview

- Basic initial wound care
- No fasciotomy before antivenom (role of ultrasound to exclude)
- Judicious, but conservative debridement
- Longer term wound care and plans for wound closure
- The timing and role of antimicrobials
- Special aspects in children and pregnant women (I saw a question about that on the last

the references for the SA Guidelines which, while not including Echis, do cover the current best practice for relevance to Africa

Basic Wound Care of Snakebite wounds

DO NOT TOURNIQUET: Move to hospital



DO NOT:

Incise, suction, “stone therapy”, cryotherapy, traditional medicines

DO: Remove rings, bangles, chains and tight clothes: wipe away venom

Only **paracetamol** for pain - Ketamine if severe pain

Avoid Opioids and Benzos – potentiate neurotoxic venom!

No NSAIDS for cytotoxic – potential for renal failure



Wound cleaning

Clean tap water – no different to sterile saline

Chlorhexidine rather than povidine antiseptics

Cover with gauze – no firm bandage unless Neurotoxic

No ointments required

Surgical and wound management

Local wound care is usually all that is required in the first 24 - 48 hours post bite.^[1,3,10-12]

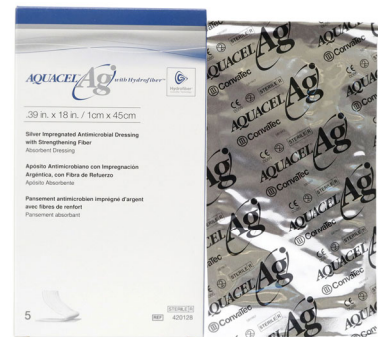
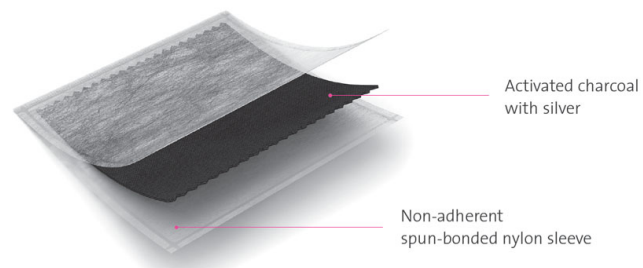
Silver containing dressings

Hydrocolloid dressings

Hydrofibre dressings

Honey-based dressings

Antivenom if indicated



Pseudo-compartment syndrome

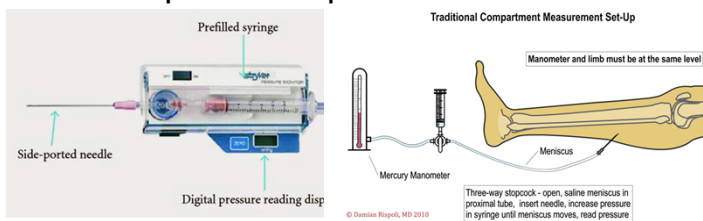
True compartment syndrome is extremely rare in snakebites. The swelling seen in cytotoxic bites is localised to the subcutaneous tissues, as seen on ultrasound studies of patients bitten in KwaZulu-

- Many unnecessary fasciotomies!
- Same signs and symptoms
- Problem in Sub-cut not muscle layer
- Primary muscle death in cytotoxic venom from the venom – antivenom and fasciotomy do not help – there will be delayed recovery!
- All non-surgical measures must be exhausted!

Cytotoxic wounds – evaluation

Role of Ultrasound

Compartment pressure measures

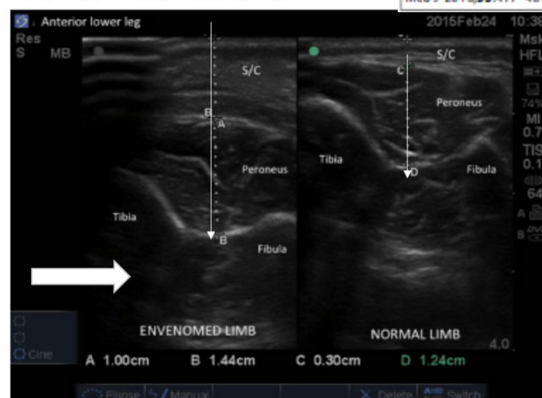


Antivenom first before fasciotomy

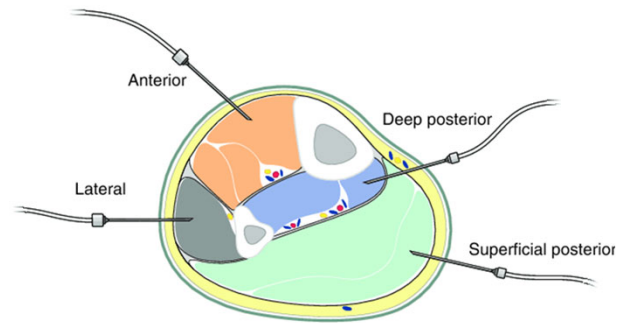
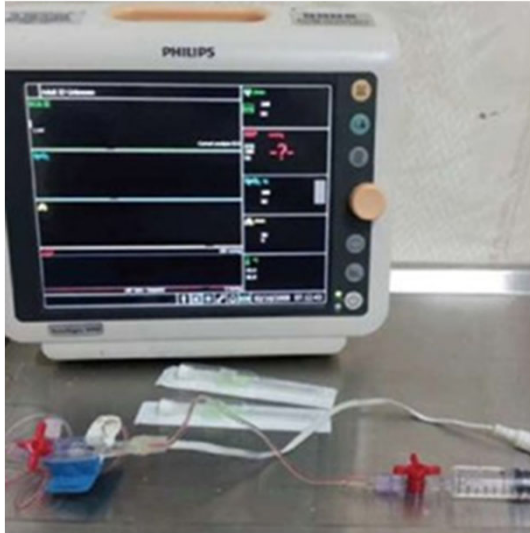
Ultrasound findings in 42 patients with cytotoxic tissue damage following bites by South African snakes

Darryl Wood,^{1,2} Benjamin Sartorius,³ Richard Hift¹

To cite: Wood D, Sartorius B, Hift R. *Emerg Med J* 2016;**33**:477-481.



Checking the pressure



Why are fasciotomies avoided?

Animal studies have demonstrated that fasciotomy is ineffective in saving envenomed muscles.^[12] The venom affects the muscle primarily, and this leads to delayed recovery, with or without fasciotomy.^[2,14,15] Medical treatment with aggressive elevation of the affected limb above the level of the heart, antivenom administration at the high end of the dose range for painful progressive swelling including 2-hourly follow up doses and the administration of osmotic diuretics can prevent the vast majority of fasciotomies and *must be completed prior to fasciotomy* with re-assessment of the limb.^[1,3] The



48-96hr review

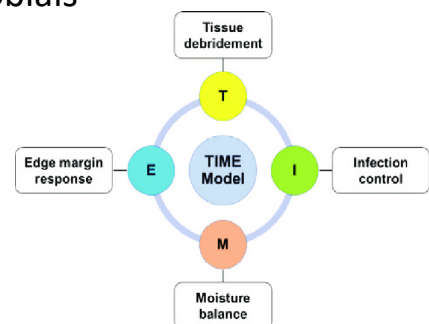
Assess the wound:

Tissue viability

Inflammatory changes – usually no antimicrobials

Moisture balance

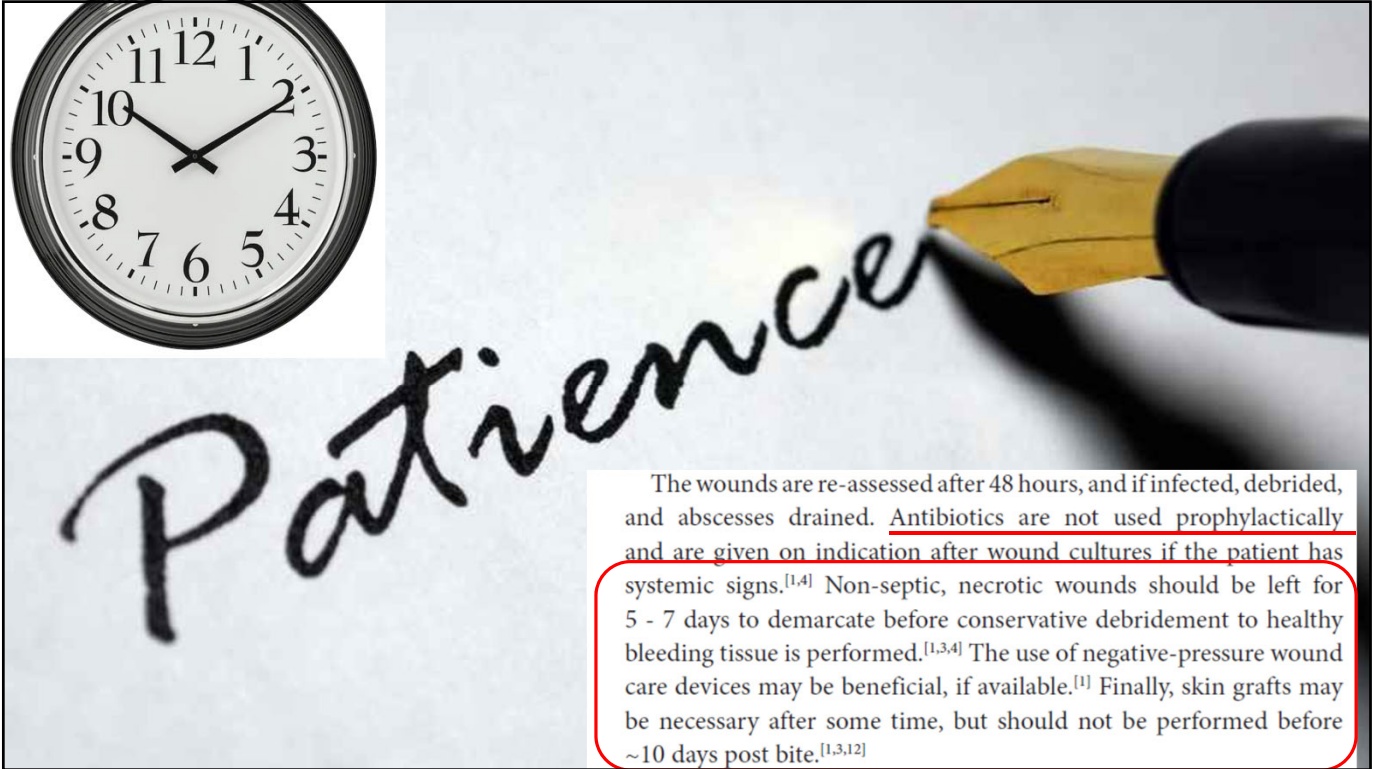
Epidermal advancement – cover the wound





Mozam
bite





The wounds are re-assessed after 48 hours, and if infected, debrided, and abscesses drained. Antibiotics are not used prophylactically and are given on indication after wound cultures if the patient has systemic signs.^[1,4] Non-septic, necrotic wounds should be left for 5 - 7 days to demarcate before conservative debridement to healthy bleeding tissue is performed.^[1,3,4] The use of negative-pressure wound care devices may be beneficial, if available.^[1] Finally, skin grafts may be necessary after some time, but should not be performed before ~10 days post bite.^[1,3,12]

Case study – Stiletto snake bite: Mr BK



General aspects around wound debridement

Tissue Viability

Initially use sharp debridement
(Scalpel and forceps)
Cut back to healthy bleeding tissue
Good haemostasis – cautery
Gentle tissue handling

Moisture Balance

Don't dry the wound out
Intrasite® jel or similar
If infected try Iruxol®
Cover with modern occlusive dressings
Avoid excessive slough and moisture

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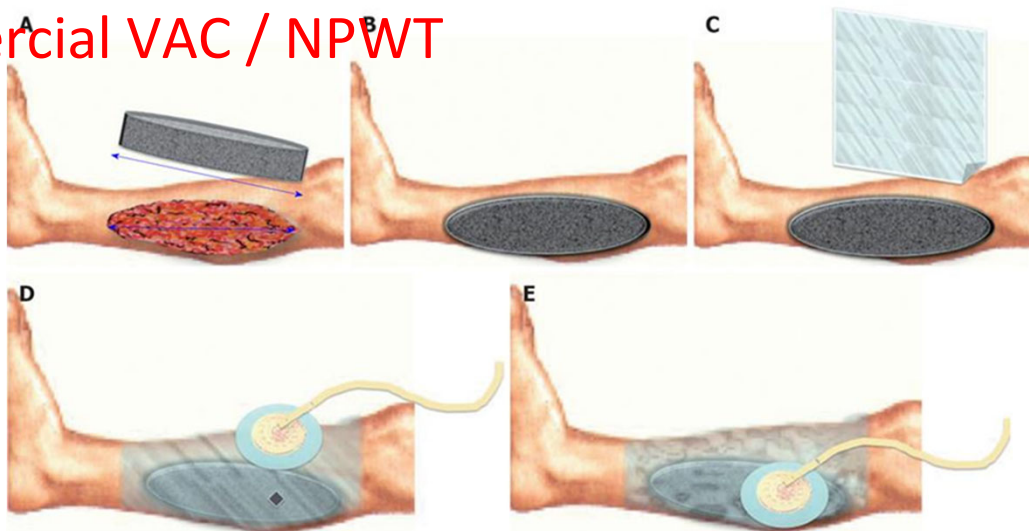
Don't dry the wound out
Intrasite® jel or similar
If infected try Iruxol® or Prontosan®
Cover with modern occlusive dressings
Avoid excessive slough and moisture
MMP antidotes (e.g. Promogran®)

VAC – easy to make and easy to use!



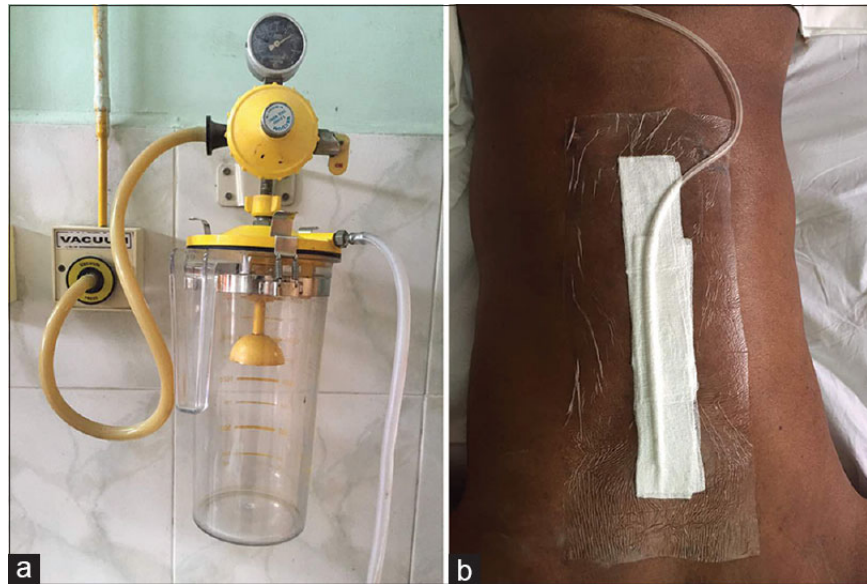
Jelonet® / Adaptic® (non-adherent material)
 Sponge (any type – sterile – 3M®)
 Occlusive dressing – sticky (Opsite® / Ioban® / Steridrape®)
 Silastic tubing or a suction catheter
 Suction access @ -20 kPa (up to -75kPa acceptable)

Commercial VAC / NPWT



Making a “cheap VAC”

Wall suction - LPS



Other Options:

Enzymatic debridement

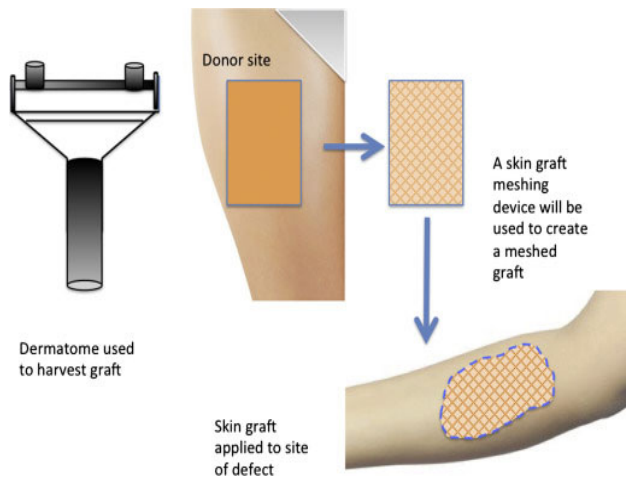
Benzoic acid

Ceramic absorption

Sorbact



Only once wound bed clean and granulating



GUEST EDITORIAL

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Introductory editorial: Snakebite CME series

References – useful in Africa

Approach to the diagnosis and management of snakebite envenomation in South Africa in humans: The hospital phase – emergency unit general principles

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Approach to the diagnosis and management of snakebite envenomation in South Africa in humans: Layperson aspects and the role of emergency medical services

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Approach to the diagnosis and management of snakebite envenomation in South Africa in humans. Special patient groups and surgical aspects.

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