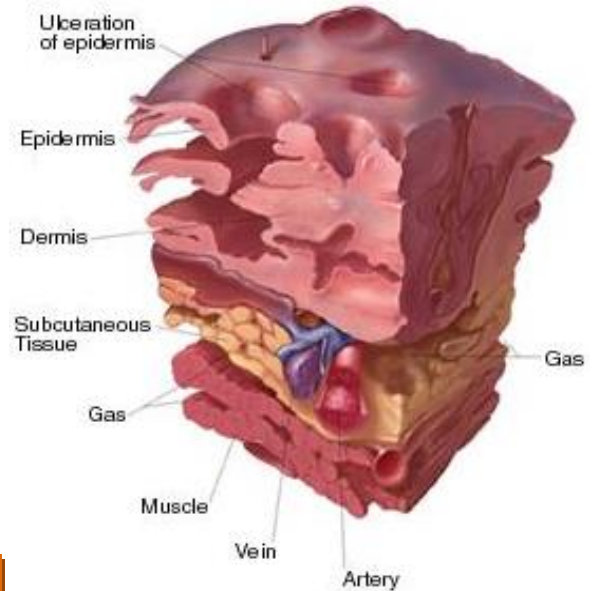
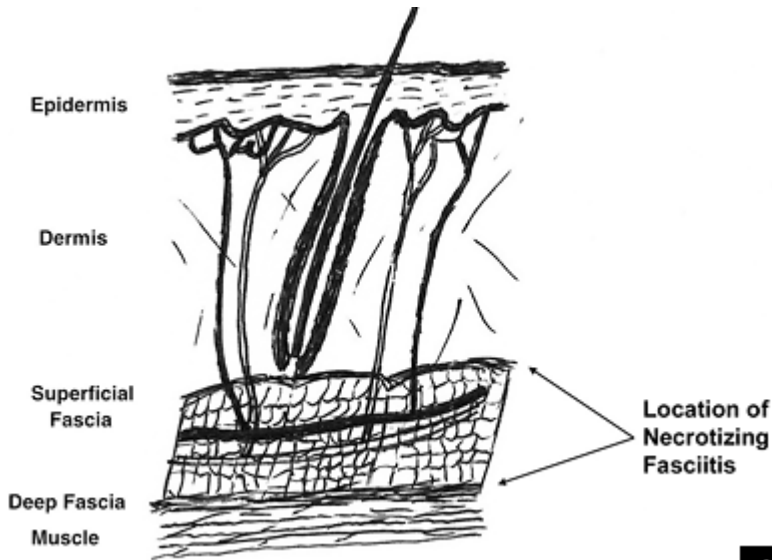


MUSCULOSKELETAL NECROTISING FASCIITIS

Necrotising fasciitis (also known as gangrene) is a rapidly spreading **infection of the fascia**. **Surrounding soft tissue damage and necrosis is secondary** to the fascial infection. It is able to spread rapidly as it can move unobstructed along the plane of the fascia and the **deep fascia in particular is essentially avascular**, limiting the body's ability to fight infection



Signs & Symptoms

Earliest symptom is often **pain without insult and disproportionate to clinical findings**

Skin may be discoloured

Paraesthesia/ anaesthesia as nerve fibres destroyed

Systemic inflammatory response e.g. fevers, tachycardia

Pain & crepitus on palpation or it may feel 'wooden'



The three most common infecting organism patterns are:

- **Polymicrobial** (including E.coli, MRSA, Vibrio vulnificus (saltwater gangrene), Pseudomonas etc.)
- **Group A β Haemolytic Strep**
- **Clostridium species** (this is the cause of 'gas gangrene')

At risk groups

The main groups at risk are those who inject drugs (prescription or illicit) as this provides a possible route for bacterial seeding and the immunocompromised.

- Diabetes
- HIV
- Malignancy
- Immunosuppressants e.g. corticosteroids, DMARDS, chemotherapy
- IVDU (combined injecting & HIV risk)
- Alcohol dependence
- Peripheral vascular disease

Management

Ultimately requires early **surgical exploration and debridement.**

Immediate ED management includes general resuscitation and IV antibiotics

IV Antibiotics for Necrotising Fasciitis

- Flucloxacillin
- Benzylpenicillin
- Gentamicin
- Clindamycin
- Metronidazole

If true penicillin allergy or if MRSA use Vancomycin instead of Flucloxacillin and Benzylpenicillin

LRINEC Score

The Laboratory Risk Indicator for Necrotising Fasciitis can be used to risk stratify patients presenting with symptoms of cellulitis for the likelihood of Necrotising Fasciitis

A score ≥ 6 warrants further evaluation

A score ≥ 8 indicates high risk

However, a score < 6 **does not rule out Necrotising Fasciitis.** Clinical suspicion overrules scoring systems

Variable	Result	Score
CRP (mg/L)	<150	0
	≥ 150	4
WCC ($\times 10^3$)	<15	0
	15- 25	1
	>25	2
Haemoglobin (g/L)	>135	0
	110-135	1
	135	2
	<110	
Sodium (mmol/L)	≥ 135	0
	<135	2
Creatinine (mcg/L)	≤ 141	0
	>141	2
Glucose (mmol/L)	≤ 10	0
	>10	1