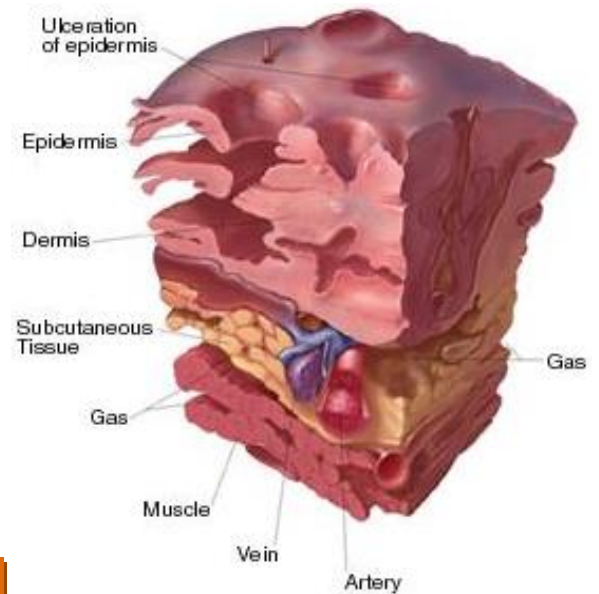
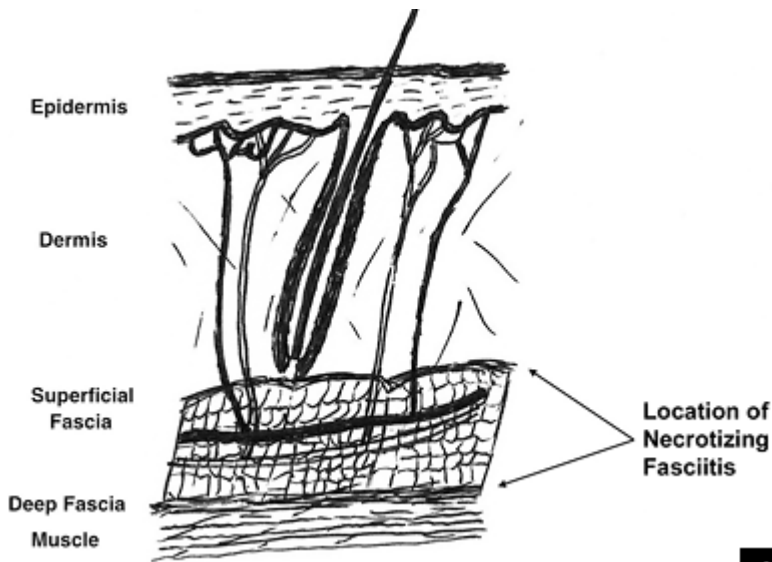


## MUSCULOSKELETAL NECROTISING FASCIITIS

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  $\beta$  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  $\geq 6$  warrants further evaluation**

**A score  $\geq 8$  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
	$\geq 150$	4
WCC ( $\times 10^3$ )	$<15$	0
	15- 25	1
	$>25$	2
Haemoglobin (g/L)	$>135$	0
	110-	1
	135	2
	$<110$	
Sodium (mmol/L)	$\geq 135$	0
	$<135$	2
Creatinine (mcg/L)	$\leq 141$	0
	$>141$	2
Glucose (mmol/L)	$\leq 10$	0
	$>10$	1