ED QUICK QUIZ
WHAT IS THE DIAGNOSIS?

A 31 year old man limps into the ED complaining of severe right thigh pain.

The pain has been increasing for the past 48 hours and he describes it as the worst pain he has ever felt. However, he denies any history of trauma.

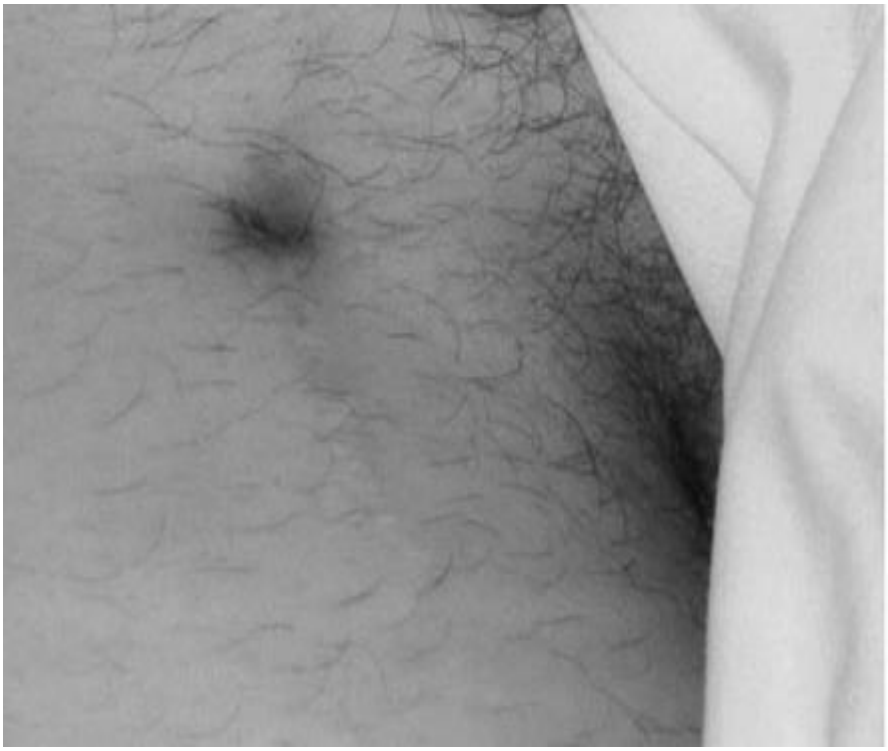
He denies any underlying health conditions and has NKDA.

He is on the methadone programme, takes street Valium and has recently had a relapse into IV drug use.

O/E

- RR 20; SpO2 98%
- HR 110; BP 100/60
- Temp 37.5

He has a chronic groin sinus from injecting and his inner thigh and groin area is exquisitely tender but there is not much else to note.



You decide to do a set of blood tests and interestingly his Lactate comes back at 6 on a VBG.

1. What diagnoses would you have in your list of differentials?
2. What is the most likely diagnosis here?
3. What is the management?

1. What diagnoses would you have in your list of differentials?

- Cellulitis/ Abscess-
- DVT/ Pseudo aneurysm
- Compartment syndrome
- Necrotising fasciitis

Although relatively uncommon you should always have **compartment syndrome** and **necrotising fasciitis** in your list of differentials for those at risk and those patients with limb pain out with the clinical picture.

Persons at risk of Necrotising fasciitis include anyone with immune compromise e.g.

- Diabetic patients (especially those who are insulin dependent, as injections could act as a route for bacterial seeding)
- Malignant diseases
- Immunosuppressant medications e.g. corticosteroids, DMARDs, chemotherapy
- HIV
- Injecting drug users (combined risk of undiagnosed HIV & injections allowing bacterial seeding)
- Peripheral vascular disease

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 spp.** (this is the cause of 'gas gangrene')

2. What is the most likely diagnosis here?

In this case, given the history of drug injection, the patient's general condition, pain and lactate result which would be outside that expected, the most likely diagnosis is of **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 and symptoms include:

The most common early finding is that of pain out with the apparent insult (similar to compartment syndrome). Later the overlying skin may be numb as the infection destroys nerve fibres

The patient may also appear unexpectedly unwell with fevers, tachycardia and malaise. Palpation of the area may reveal extreme tenderness/ anaesthesia, crepitus due to gas produced by bacteria or the tissues may feel hard and wooden.

3. What is the management?

The definitive management is fasciotomy and debridement and depending on the site may involve orthopaedics, plastics and general surgery. At GRI these patients are usually admitted under orthopaedics to surgical HDU or intensive care.

Initial management includes general resuscitation with fluids and 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