What is an Oedema?

A shift of plasma to interstitial fluid

An oedema is an accumulation of fluid in the interstitial space

Occurs if venous hydrostatic pressure rises, plasma oncotic pressure decreases or interstitial oncotic pressure rises

May also develop if an obstruction of lymphatic outflow causes decreased removal of interstitial fluid

Lymphedema

Oedema caused by heart failure

Oedema causes

Extracellular fluid volume excess caused by addition or retention of saline (saline overload)

Leaky cap bed

Obstruction to lymph flow

Plasma oncotic pressure decreases

Interstitial oncotic pressure rises

Increase in intravascular hydrostatic pressure/if venous hydrostatic pressure

Associated with cardiac, hepatic, or renal failure & venous insufficiency

Assessing oedema

Where is the oedema? Localised or Generalised?

Localised	Related to trauma or inflammation.
Other examples of localised oedema: Cerebral, pulmonary, pleural effusion, pericardial effusion, and ascites	
Generalised	More uniform distrubution of fluid in interstitial spaces

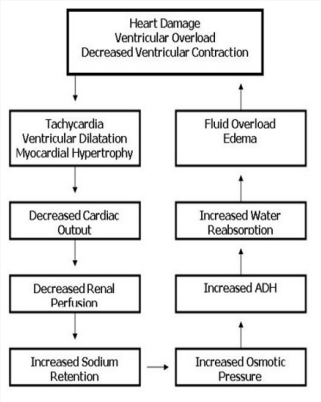
How long has the patient had oedema?

Chronic oedema	Longer than 3 months

What could be the cause?

How does this affect the patient?

Fluid shifts in heart failure



Venous obstruction

Fluid spacing

First spacing	
Second spacing	Abnormal accumulation of fluid in interstitial spaces, such as oedema. This abnormal accumulation can still be easily moved back to ICF/ECF, where it should be
Third spacing	Abnormal accumulation of fluid trapped in spaces where it is difficult or impossible to return to where it should be, such as ascites or burn related injuries. This requires medical intervention to reverse.

Measuring oedema

Dependent oedema: Pitting and non-pitting

Grading oedema	
1+	Slight pitting/2mm, disappears rapidly
2+	Deeper pit/4mm, disappears in 10-15s
3+	
4+	Very deep pit/8mm. lasts 2-5m, extremely grossly distorted

Nursing interventions

- Ensure underlying cause is being managed appropriately, attempting to reverse
- Position patient to reduce positional fluid collection
- Recording measurements of pitting oedema
- Daily weigh
- Administering diuretics if prescribed
- Protecting affected tissue from further injury
- *What is the pathophysiological rationale?*

Effects of oedema: determined by location

- Fluid leaves bloodstream and accumulates in interstitial spaces
- Circulating blood volume and blood pressure decline
- Tissue more susceptible to injury
- Poor supply of nutrients and oxygen to support healthy tissue
- Up to 50% of patients suffering from oedema experience leg ulceration, with 31% of these people having the ulcer for more than 5 years