

Every kind of oedema is
lymphoedema

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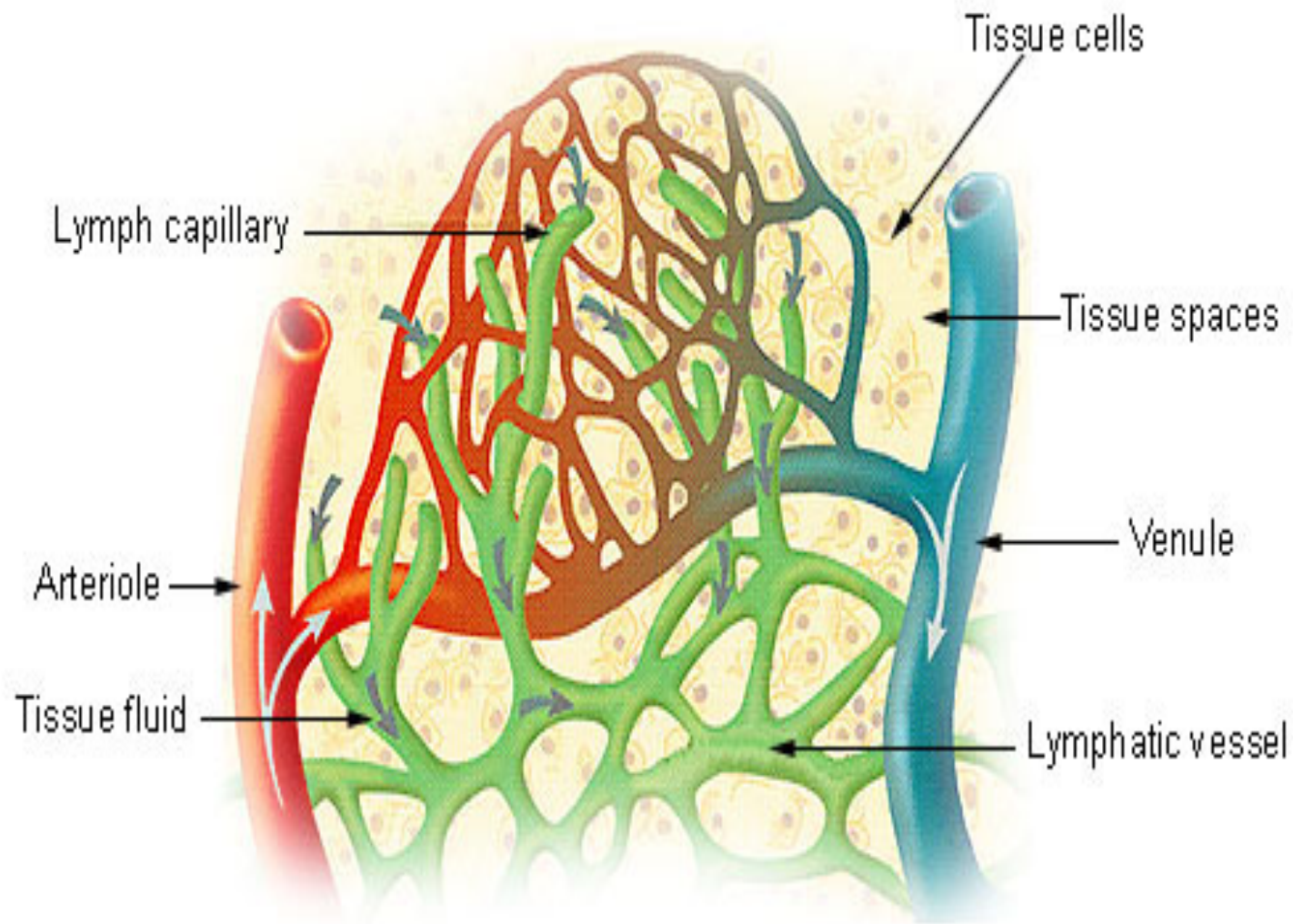
Lymphoedema : definition

- tissue swelling due to a failure of lymphatic drainage

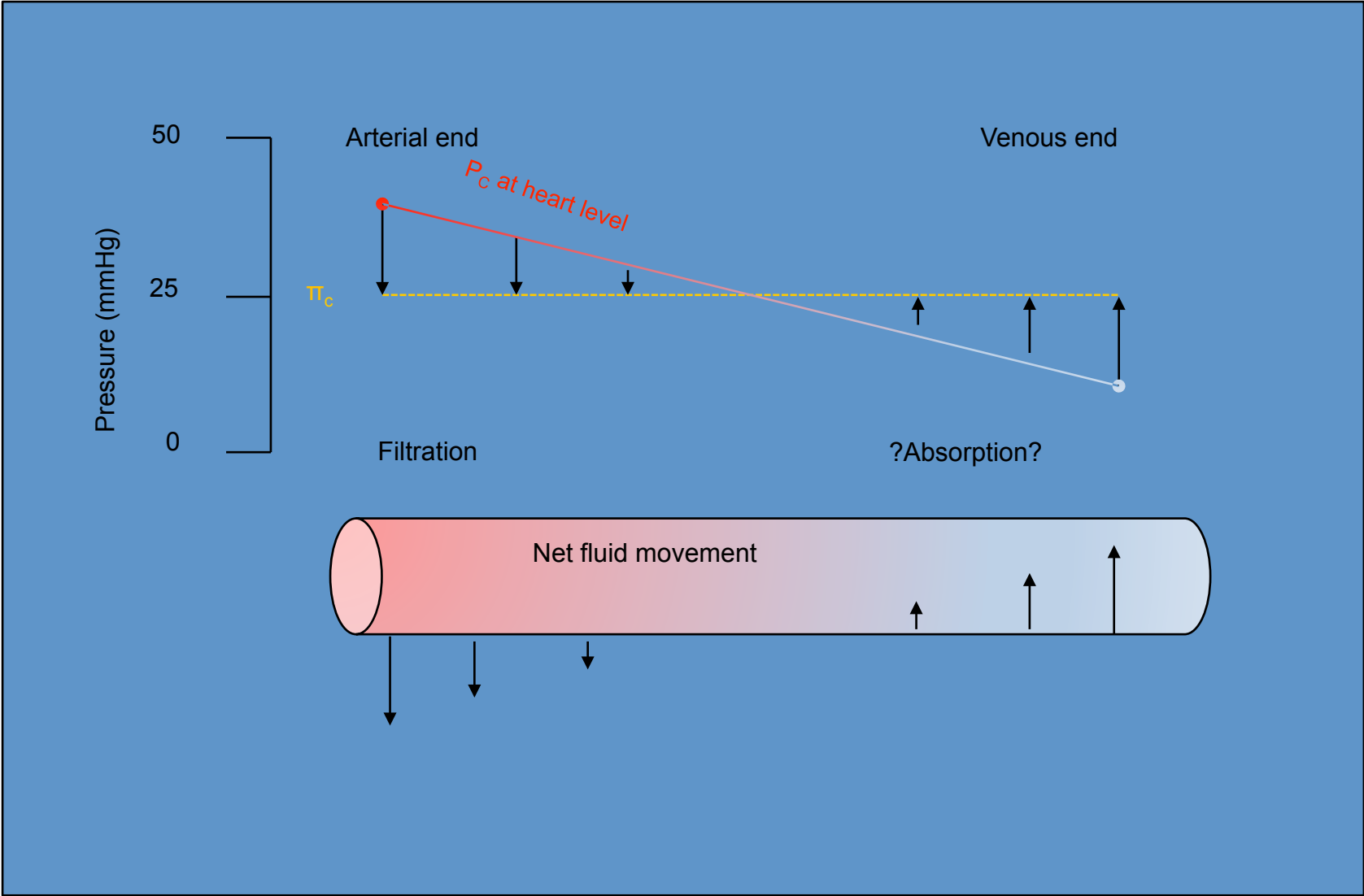
What causes oedema?

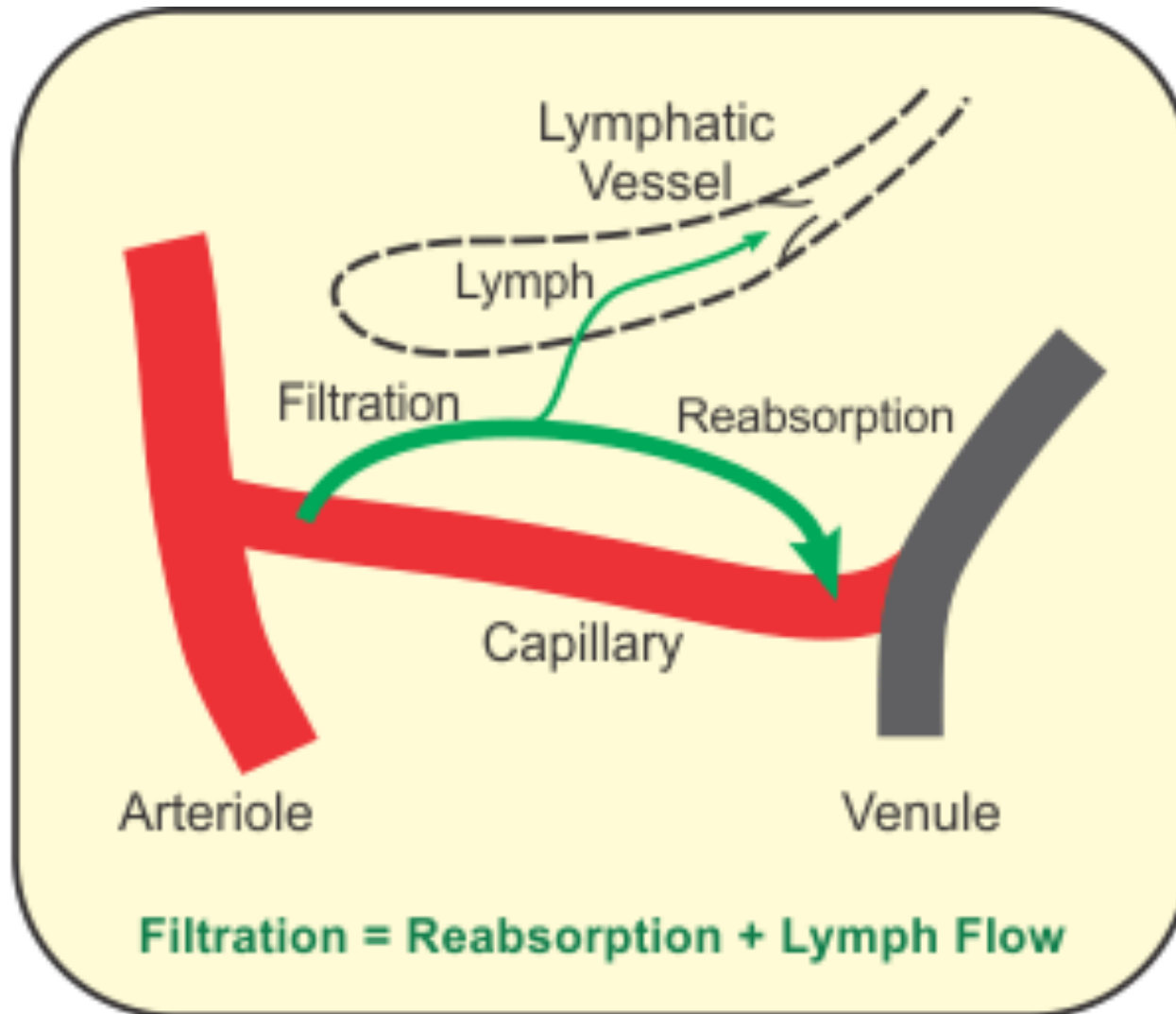
- When capillary filtration exceeds lymphatic drainage

Lymph Capillaries in the Tissue Spaces



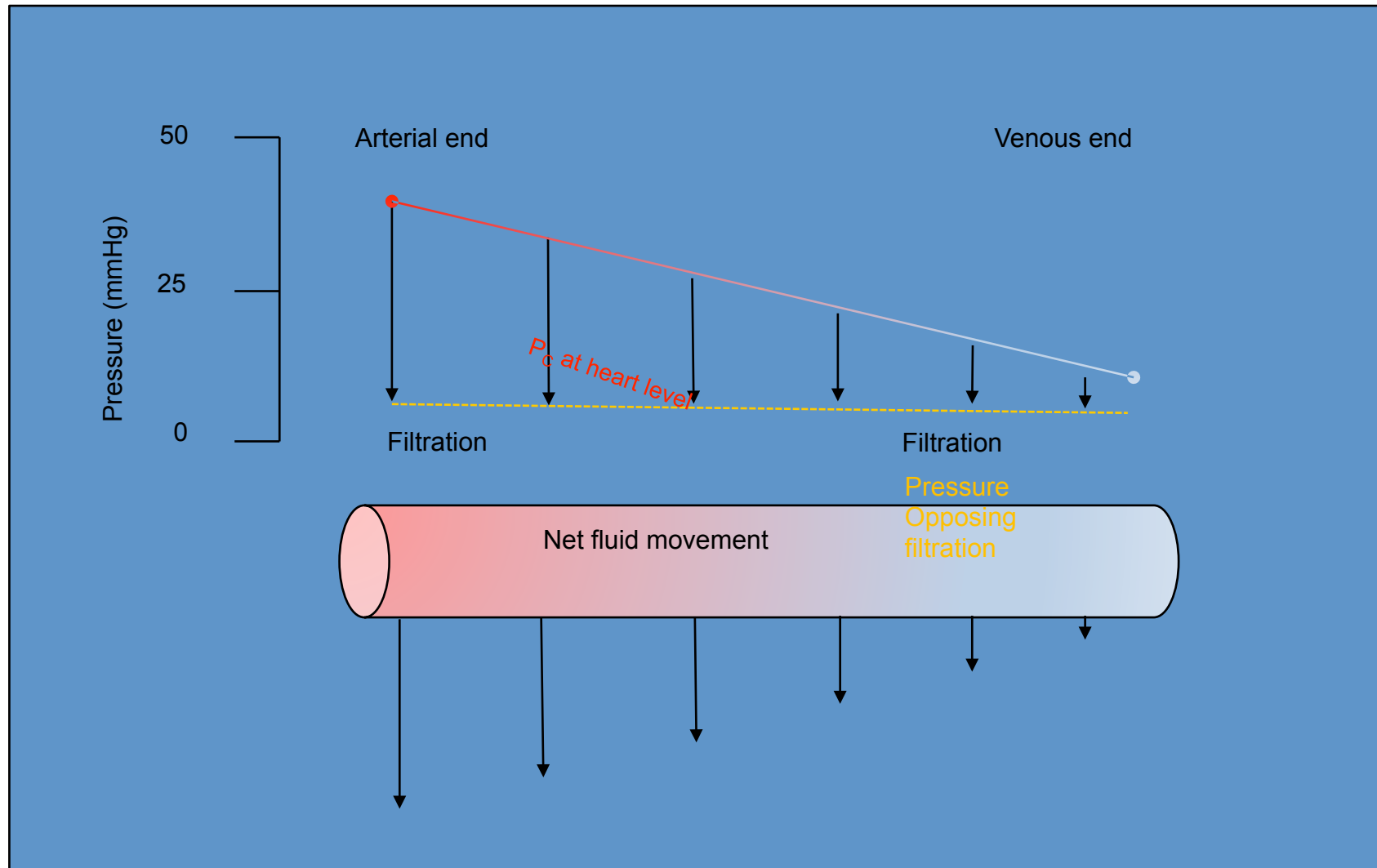
Traditional model of capillary filtration





The interstitial volume (bounded area) depends on the rates of filtration, reabsorption and lymph flow.

Revised model of capillary filtration



Lymph flow

- Lymph flow is proportional to interstitial pressure
- But reaches a plateau (transport capacity maximum)
- Sustained high lymph flow results in lymphatic damage and a reduction in flow

Mechanisms of oedema production

- Raised hydrostatic pressure in the capillary eg venous hypertension (incr cap filt)
- Raised hydrostatic pressure in the lymphatic eg lymphoedema (decr lymph drain)
- Reduced plasma oncotic pressure eg hypoalbuminaemia (incr cap filt)

“New” physiology

- In steady state in most capillaries, there is no reabsorption into the venous end of the capillary
- The lymphatic is the main route for flow of fluid (and macro molecules) out of the interstitial space
- All oedema has a lymphatic component

Should we call all chronic oedema, “Lymphoedema”?

- “Lymphoedema”
- “Chronic oedema”

“Chronic oedema”:

- a term which covers this more complex picture and includes pure lymphoedema
- oedema of limbs / mid-line structures.
- > 3 months duration

(Moffatt et al Q J Med 93: 731-8 (2003))

Chronic oedema includes:

lymphoedema (primary & secondary)

venous oedema

oedema associated with immobility

oedema of advanced cancer

other conditions with associated oedema e.g. lipoedema; Klippel-Trenaunay syndrome etc

If “chronic oedema” = “lymphoedema”

- Primary lymphoedema

- as before +

- Lymphovascular malformations

If “chronic oedema” = “lymphoedema”

- Secondary lymphoedema
 - as before +
 - Venous disease (phlebolymphoedema)
 - Immobility (venous hypertension)
 - Obesity
 - Advanced cancer
 - Heart failure
 - Lipoedema

Why is this important?

- Standardised definition for prevalence studies etc
- However, important to distinguish types of secondary lymphoedema to determine appropriate treatment / prevention
- Also important for research; prevalence studies etc

Thank you!