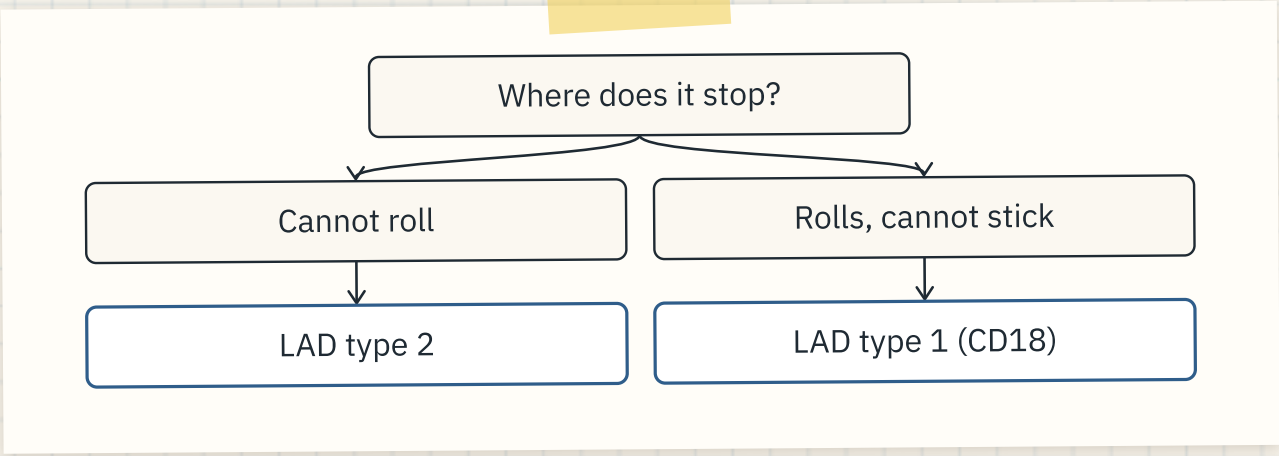
Leukocyte adhesion deficiency

Which step of extravasation fails?



Step by step

1. Roll: selectins catch the neutrophil
2. Activate: chemokines switch on integrins
3. Stick: LFA-1 binds ICAM-1
4. Cross: between endothelial cells

	Type 1	Type 2
Fault	CD18 (ITGB2)	Fucose transporter (SLC35C1)
Fails at	Sticking and crossing	Rolling
CD18	Missing	Normal
Clues	Late cord, no pus	Growth retardation, Bombay

Type 1 vs type 2

Rule of thumb

Roll, activate, stick, cross

Type 1 rolls but cannot stick

Type 2 cannot even roll

Exam traps

- Failure to roll is type 2, not type 1.
- High neutrophil count with no pus: the cells are stuck in the blood.
- Severe disease often has under 2 percent CD18.

Leukocyte adhesion deficiency: CD18 and neutrophil extravasation

Video, written lesson, practice question and sources: medservatory.com/usmle-step-1/immunology/leukocyte-adhesion-deficiency-cd18-integrins-selectins

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