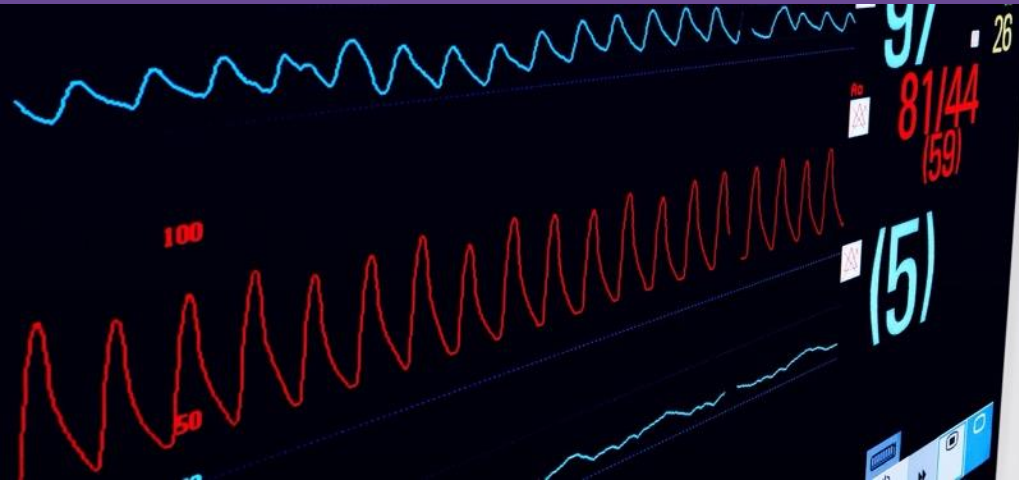


Transfusion-associated circulatory overload

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AIOS Anesthesiologie / Intensive Care

NVB 10-05-2023







Indicaties

- Componenten therapie:

- RBC's

↓ Hb

- Plaatjes

↓ aantal / slechte functie

- Plasma

↓ stollingsfactoren

- Alle andere effecten ongewenst!





TACO

- Komt vaak voor

- #1 transfusie mortaliteit NL, FR, USA

- 1% alle transfusies¹

Transfusies:

- NL: 350.000/jr

- USA: 11.000.000/jr

- 6% op de IC² / OK³

- **Mortaliteit:** 10%⁴

1. Roubinian *Vox Sang* 2017;

3. Clifford *Anesthesiology* 2015;

2. Li *Transfusion* 2011;

4. Roubinian *Crit Care Med* 2018





Waarom TACO?

- #1 oorzaak overlijden door transfusie

Bijzonder:

- 30 - 50% van TACO na 1 unit⁵
- Incidentie ↓ na leukoreductie⁶
- 33% koorts⁷

5. Piccin *Transfusion* 2015

6. Blumberg *Transfusion* 2010

7. Parmar *Vox Sang* 2017

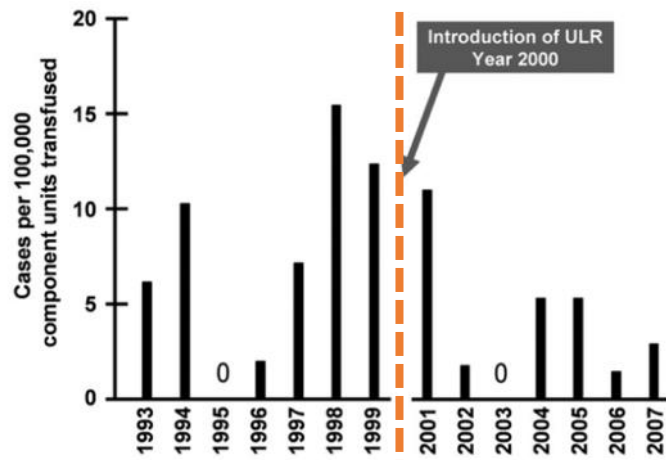


Fig. 2. The annual incidence of TACO before (1993-1999) and after (2001-2007) the introduction of universal leukoreduction (ULR) in the year 2000 is shown. The incidence rate was five or fewer cases per 100,000 components transfused in 6 of the 7 years after the introduction of ULR, compared with only 2 of the 7 years before the introduction of ULR.

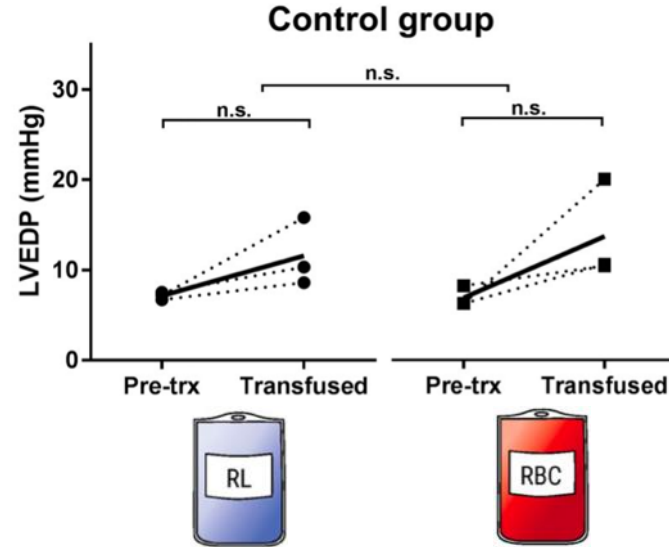
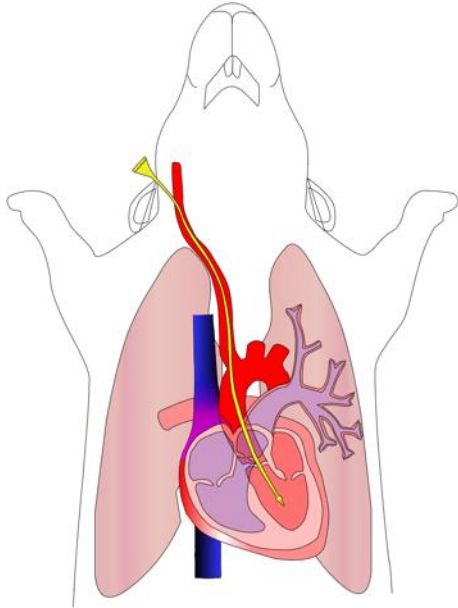


Thesis doelen:

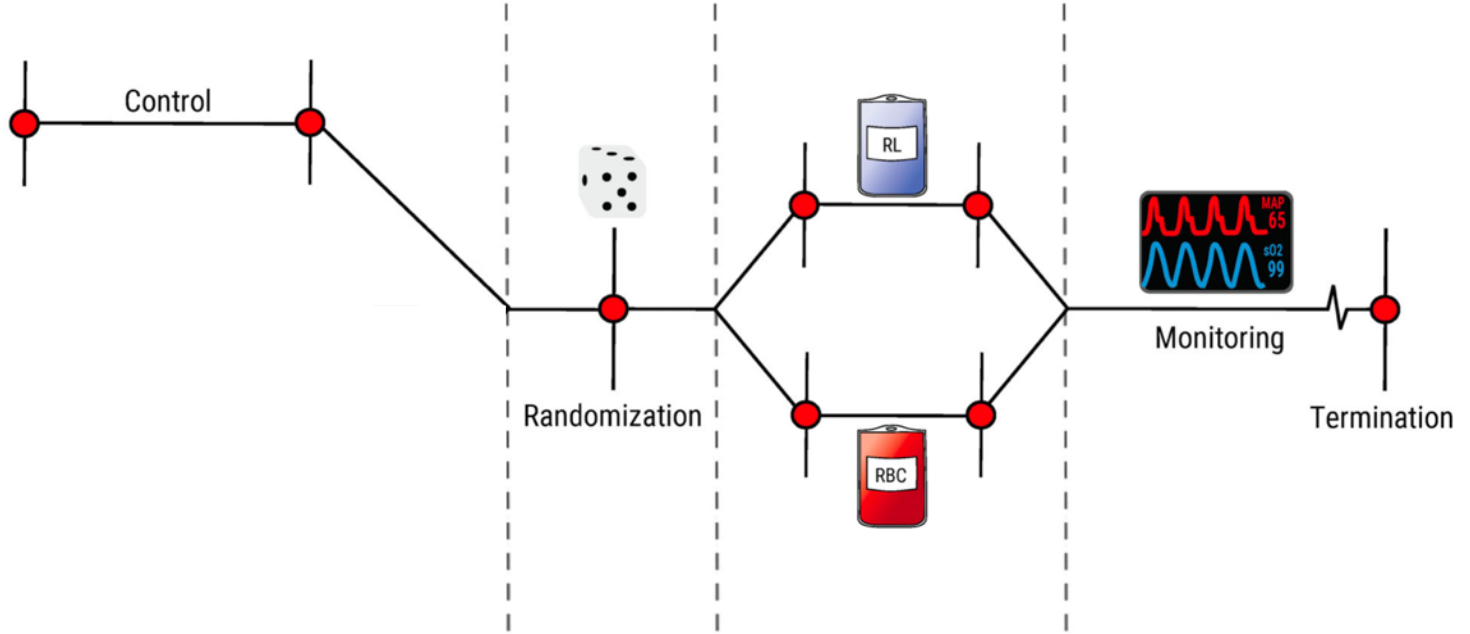
1. Is TACO meer dan volume overbelasting? Hoe ontstaat het?
2. Kunnen we TACO voorkomen?

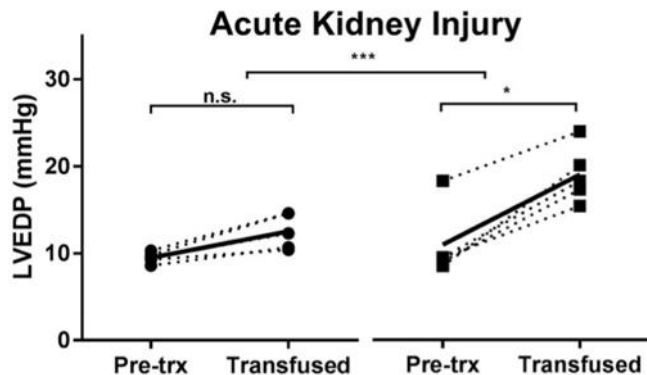
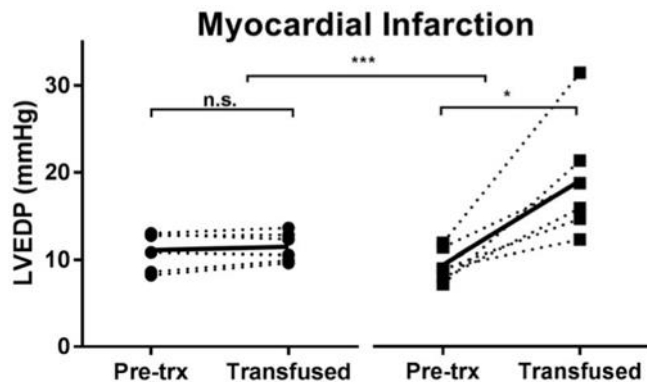


Diermodel



Gezonde dieren = \emptyset effect





Diermodel

- 1^e TACO dier model
- Two-hit model
- RBCs slechter dan vocht

TACO is meer dan
volume overbelasting!



Thesis doelen:

1. Is TACO meer dan volume overbelasting? Hoe ontstaat het?

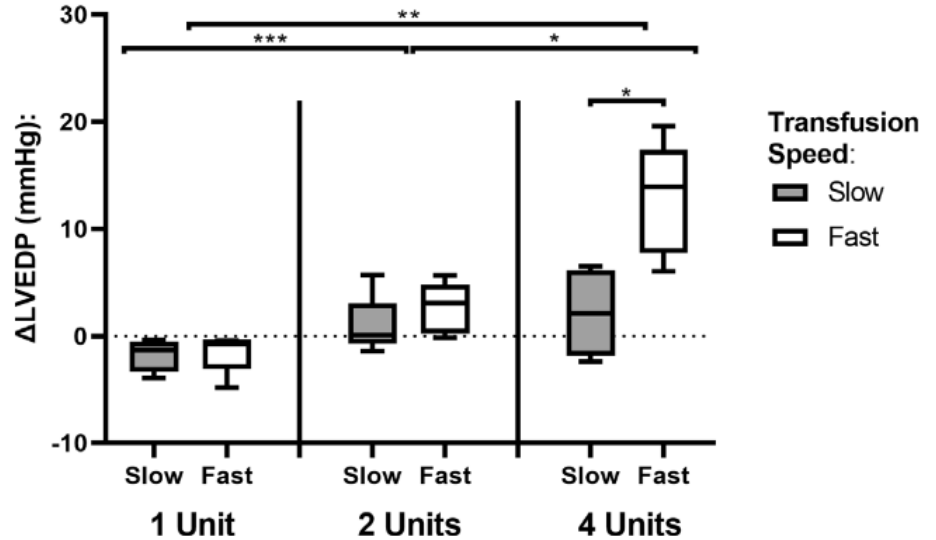
- JA!
- Two-hit model

2. Kunnen we TACO voorkomen?



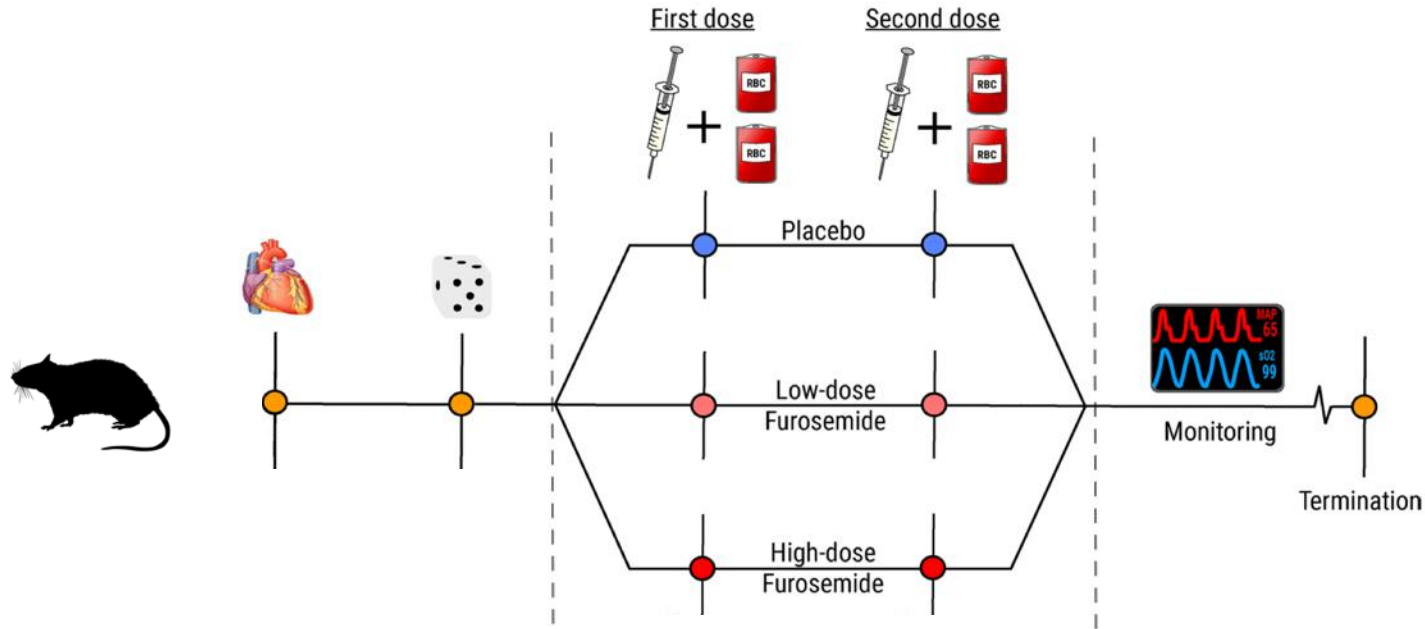
Snelheid vs. volume

- Transfusion volume
- Transfusion speed





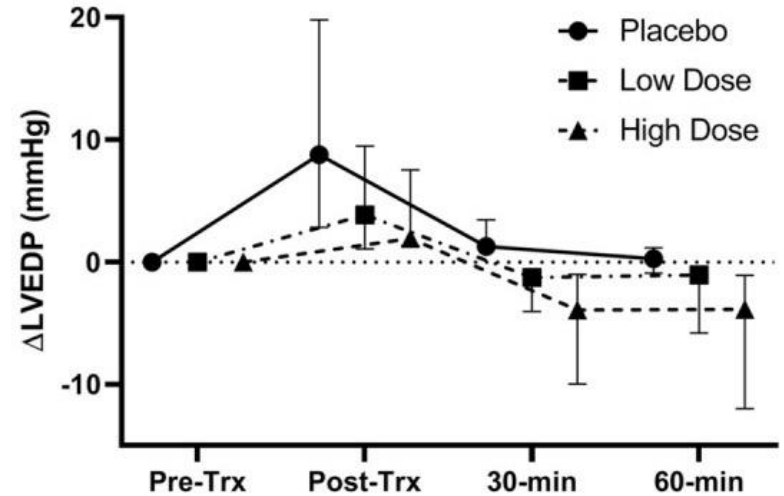
Furosemide prophylaxe





Furosemide prophylaxe

- Direct voor transfusie
- Lage dosis \pm 40mg
- Hoge dosis \pm 120mg





Thesis doelen:

1. Is TACO meer dan volume overbelasting? Hoe ontstaat het?

- JA!
- Two-hit model

2. Kunnen we TACO voorkomen?

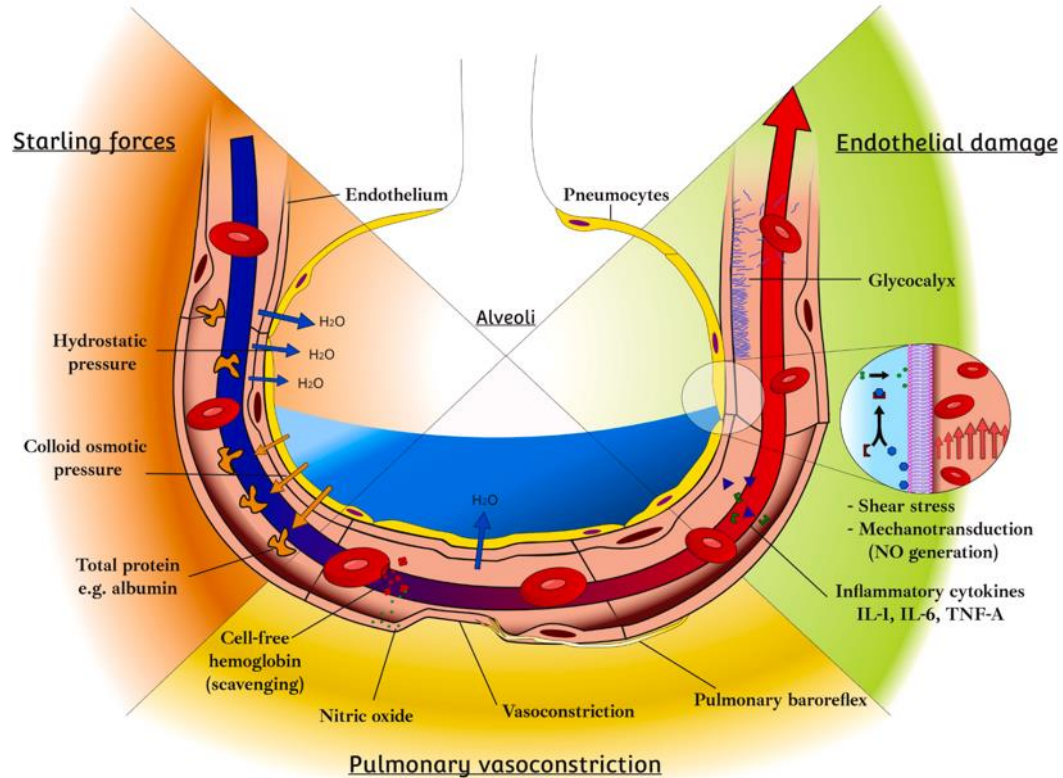
- Transfusie: snellheid
- Furosemide, 1e evidence



volume



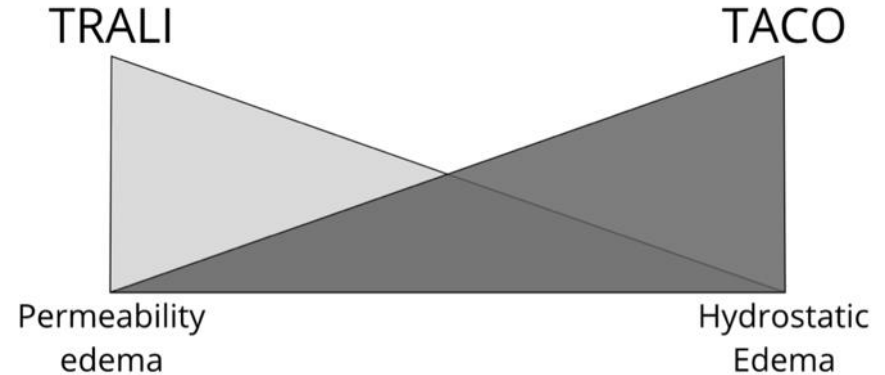
Pathofysiologie





Toekomst

- Strategie per transfusie product
- TACO - TRALI spectrum
- Individueel transfusie beleid
 - Laag volume producten
 - Snelheid
 - Profylaxe





Met dank aan

- **Amsterdam UMC**
 - Alexander Vlaar
 - Markus Hollmann
 - Margreeth Vroom
 - Bart Geerts
 - Esther Bulle
 - Phillipa Phelps

- **Sanquin Blood Bank**
 - Dirk de Korte
 - Robin van Bruggen
 - Jaap van Buul
 - Rick Kapur



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