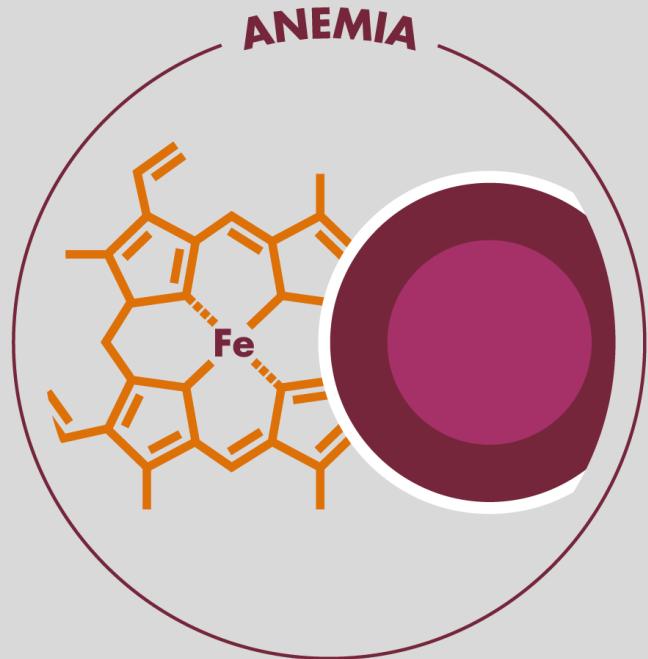


Medical Priority

Anemia



Sketch of Blundell's gravitator.

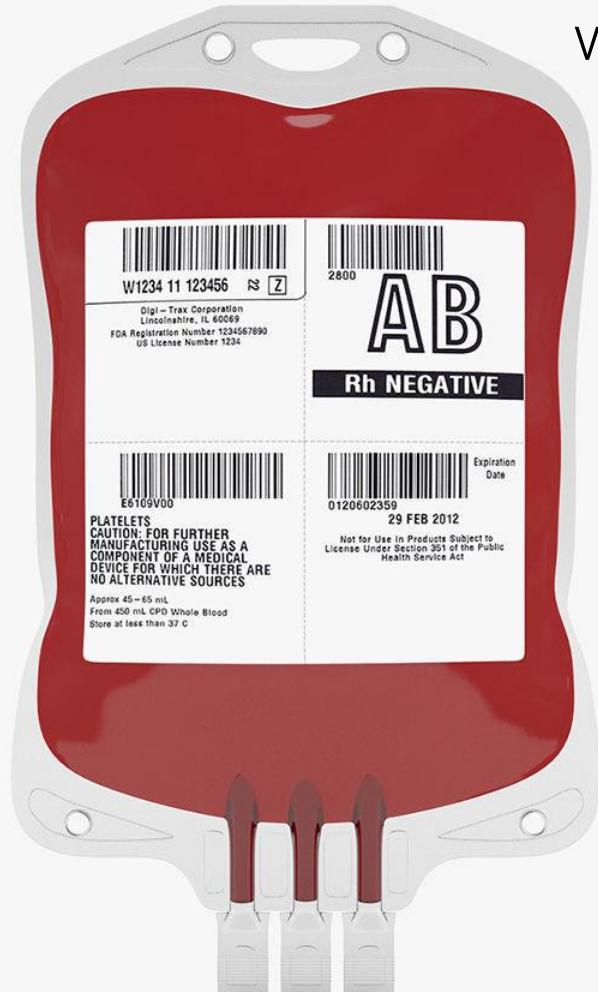


Adapted from Blundell J, Observations on transfusion (Lancet. 1828;2:321)



ITL
COLLECTION
Blood
FC-00-01
Glycogen
White Wine

Kweekbloed



“Enhanced”
rode bloedcellen

Verbeteren bewaarduur
en opbrengst

Donor health

Donor werving

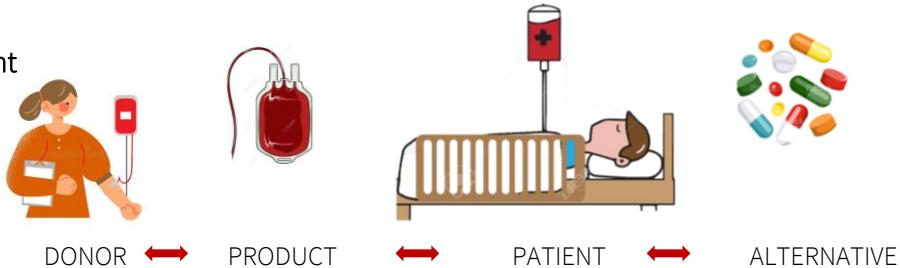
Voorkomen
transfusiereacties

Sanquin Research Strategy 2022-2026

short-mid-long term goals

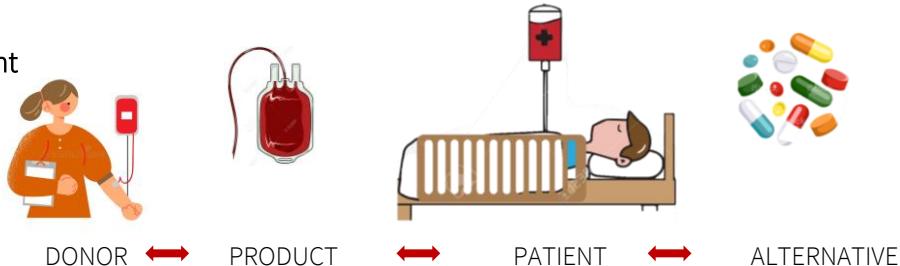
	Anemia	Bleeding and Hemostasis	Immunity and Inflammation	Immunotherapy
2 year goal	Ensuring donor biobank is up and running. Development of a cord blood-derived transfusion product for neonates.	Define evidence-based neonatal platelet transfusion guidelines Proteomics-based diagnostics of hemostatic disorders	Develop methods to identify and overcome unwanted immunity and inflammation associated with transfusion of blood products	Test products that induce anti-tumor immunity or that prevent side effects of anti-tumor treatments Develop new diagnostic tools for monitoring of immune therapy
	Perform a clinical study to test safety and functionality of <i>in vitro</i> -generated red blood cells. Develop an optimized donor policy based on novel biomarkers and iron metabolism parameters.	Omics-guided <i>in vitro</i> generation of platelets Develop and test small compounds and/or biologicals for hemostatic disorders	Develop methods to treat or prevent unwanted immunity and inflammation using blood products	Decipher how products induce anti-tumor immunity Validate new tools for diagnosis and monitoring of treatment efficacy of immunotherapy
5 year goal	Perform a first-in-man study to test safety and functionality of enhanced red blood cells for the treatment of at least one disease. Perform a clinical non-transfusion study to treat anemia of inflammation.	Develop cell- and/or gene-based therapies for hemostatic disorders Develop platelets as advanced drug delivery carriers	Immune profiling of donor and patient to develop targeted therapies and personalized medicine	Clinical trials with cellular therapies and/or antibody therapies Accreditation of newly developed diagnostic and monitoring tools

Strategie document



DOELEN → Meerjaren Programma

Strategie document



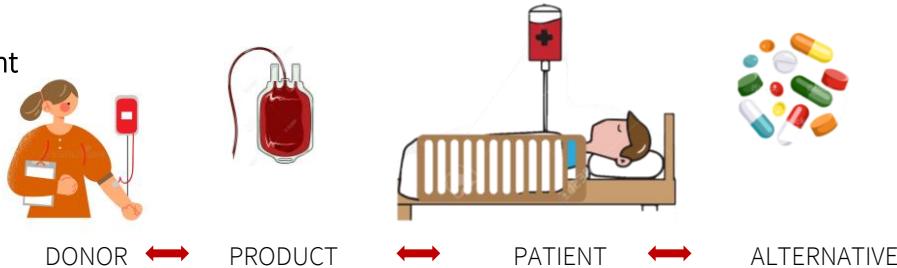
DOELEN → Meerjaren Programma

Optimization of the (current) transfusion practice

Novel products to innovate blood transfusion :
solutions for the 21st century

Managing iron metabolism and hemoglobin levels
in donor and patient

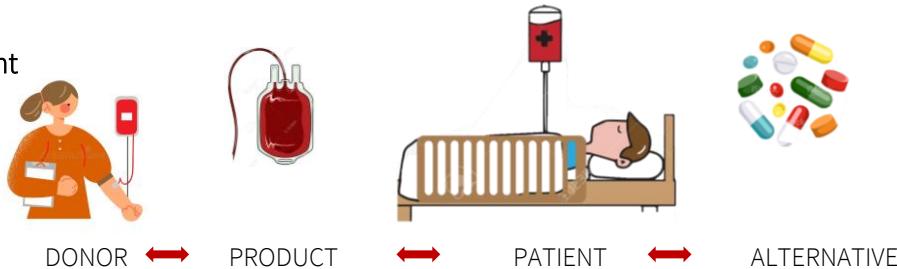
Strategie document



AIM: Managing iron metabolism and hemoglobin levels in donor and patient

	Voorkomen ijzer tekort	Voorkomen ijzer overload	
2jr	Donor gedrag Donor biobank	Optimalisatie rode cel eenheden	Optimalisatie transfusie protocol
5jr	Predictive markers (genetisch/plasma) met focus op ijzer en Hb met behulp van AI	Identificatie Good vs Bad storers (genetisch/functie)	Verbeteren parameters van iron overload – ontwikkelen nieuwe testen
8jr	Personalised doneren! (Bloedbank)	Matchen van de juiste RBC unit met de patient	Manipuleren ijzermetabolisme patient (ijzerstapeling↓, erythropoiese↑)

Strategie document



AIM: Managing iron metabolism and hemoglobin levels in donor and patient

	Voorkomen ijzer tekort	Voorkomen ijzer overload	
2jr	Donor gedrag Donor biobank	Optimalisatie rode cel eenheden	Optimalisatie transfusie protocol
5jr	Predictive markers (genetisch/plasma) met focus op ijzer en Hb met behulp van AI	Identificatie Good vs Bad storers (genetisch/functie)	Opzetten diermodel ijzerstapeling door transfusie
8jr	Personalised doneren! (Bloedbank)	Matchen van de juiste RBC unit met de patient	Klinische waarde van de parameters valideren
			Manipuleren ijzermetabolisme patient (ijzerstapeling↓, erythropoiese↑)

Questions or suggestions?

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