





BONEBANK - overview of the project

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Agenda:

- The Idea
 - Why Orthopaedic Operations
 - Harvesting Possibilities
 - Structural overview
- How will a future product get back into the patient?



Created by HeadsOfBirds
from Noun Project

THE PROBLEM

-Bone defects occur after severe infections, trauma, tumors or failed endoprostheses

-The human body can bridge bone defects to a certain extent

-Gold standard is a bone transplantation, several alternatives exist which all have their restrictions



Created by Binpodo
from Noun Project

THE IDEA

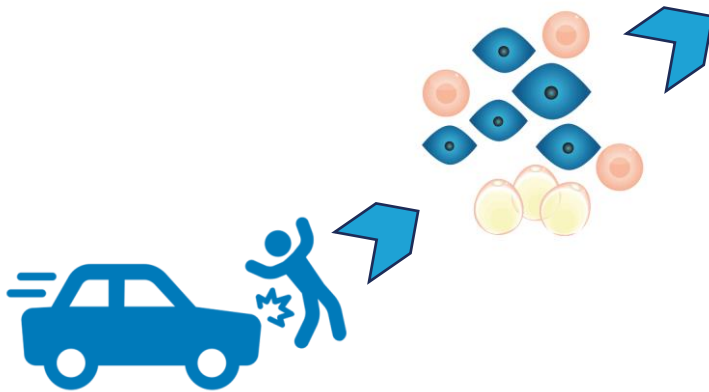


This is Nils

*Nils had a bone
defect in his jaw after
an infection*



Created by Binpodo
from Noun Project



Created by nullani
from Noun Project

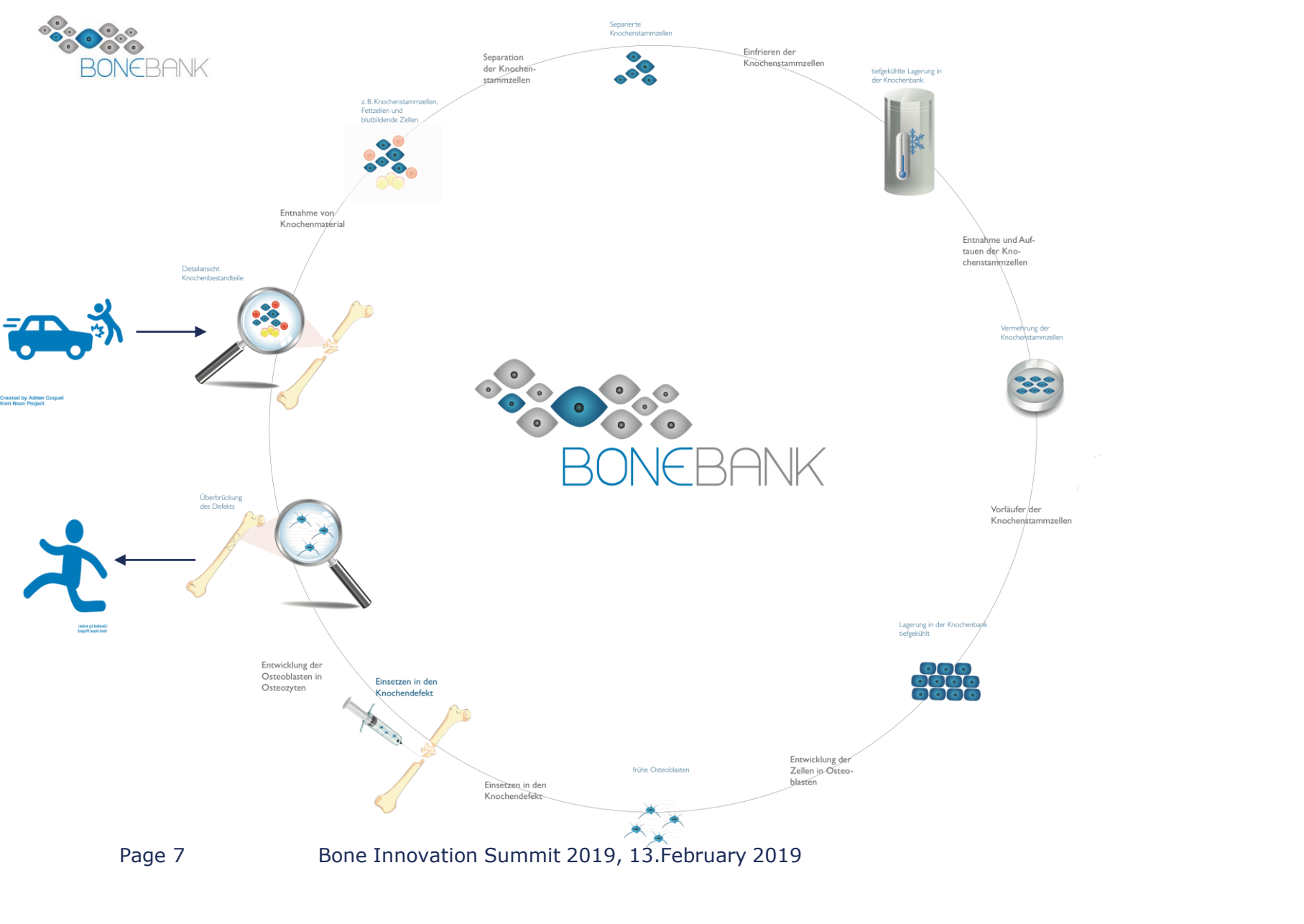
Prof. Kassem, Odense
Prof. Habermann Lübeck



Project Goals

- **Harvesting of bone stem cells** during routine operations in the university hospitals Odense and Lübeck
- **Cross-border biobank** for bone stem cells located in Odense and Lubeck
- **Organisational and exploitation model** for the Danish-German biobank providing access to bone stem cells for donators, patients, public research and companies

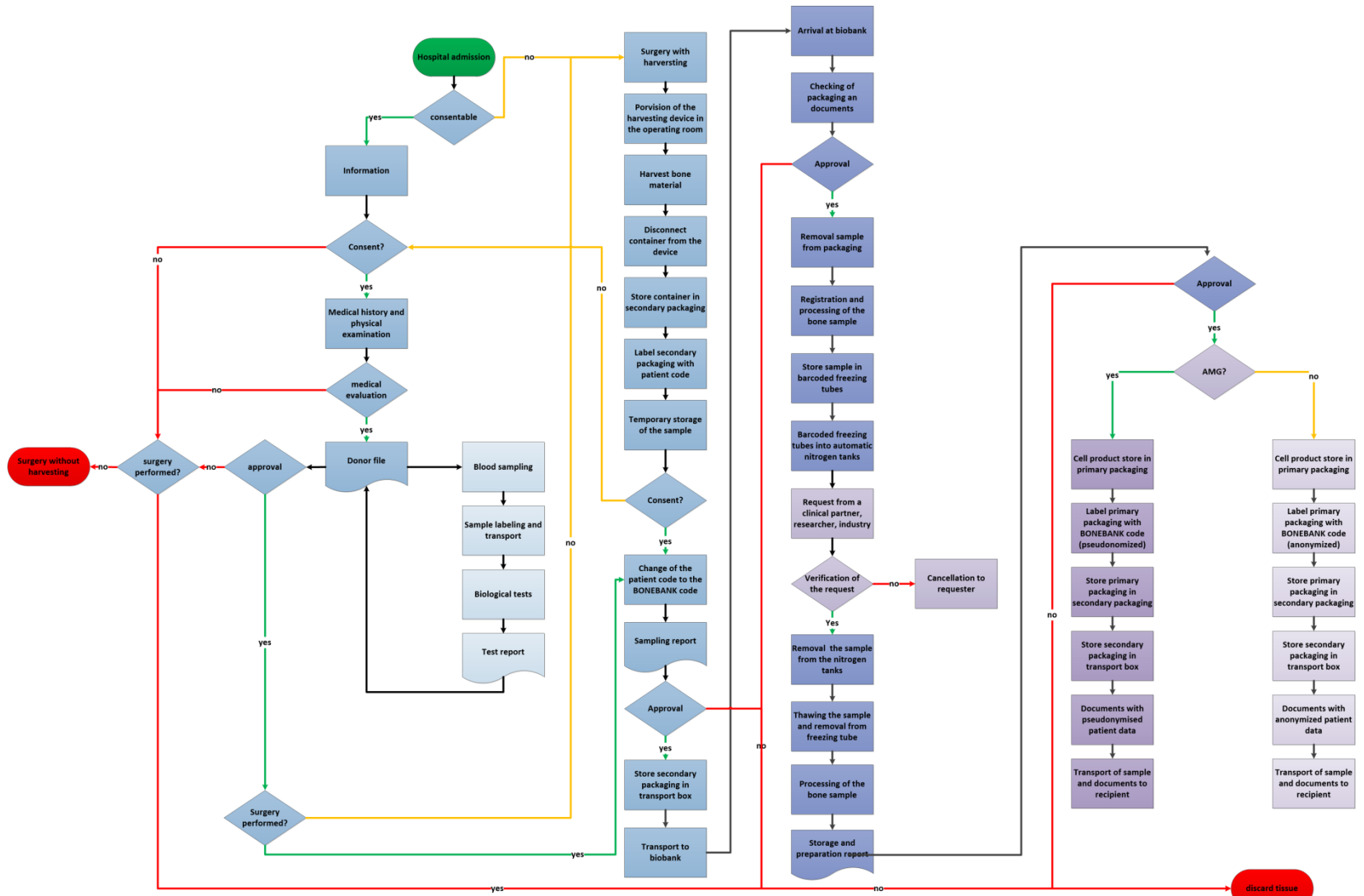
- **...but is it that easy?**



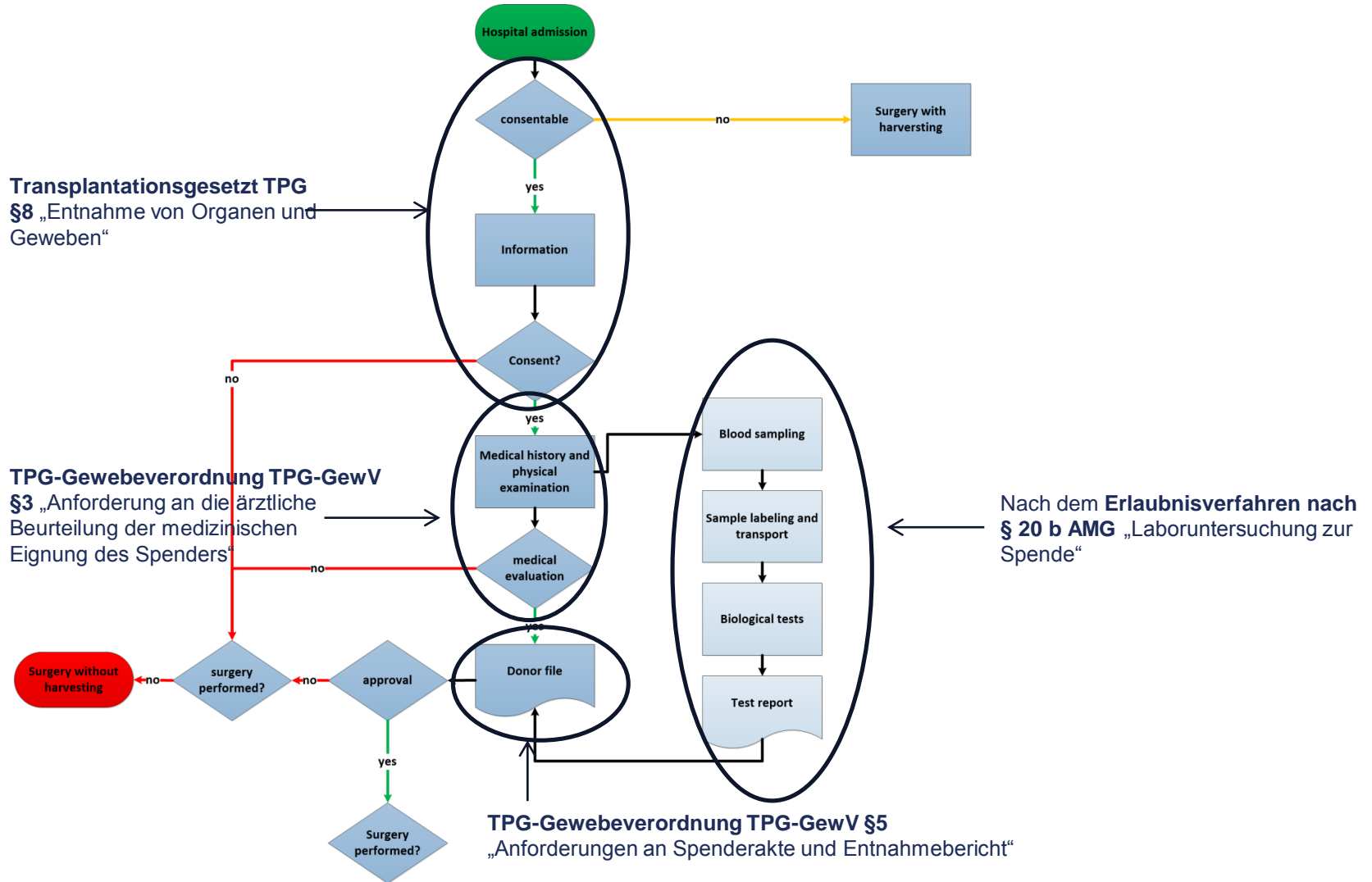
Created by Adrien Couquet
Brain Noon Project

Illustration by
Boris Kozlov

PROCESS CHAIN REGULATIONS



INCLUSION & CONSENTING REGULATIONS



NILS & ARNDT PETER NEEDED HELP!



-Successful Research of competent partners in the required field of expertise

-Sufficient funding provided by InterregA Deutschland-Denmark



Project partners BoneBank

- University Medical Centre
Schleswig-Holstein, Campus Lübeck
- Odense University Hospital
- Stryker Trauma GmbH & Co. KG
- Soventec GmbH
- Life Science Nord Management
- Næstved Hospital

Network partners

- Syddansk Sundhedsinnovation
- WelfareTech
- IHK Lübeck



Project Data



Start: 1 September 2015
End: 28. February 2019

Duration: 42 months

Extension 2019-2020



Total project budget Phase 1: 2.377.265 EUR,
1.338.876 EUR of which are Interreg funding



Work Packages

1. Project Management

Lead: University Medical Centre Schleswig-Holstein

2. Public Relations

Lead: University Medical Centre Schleswig-Holstein

3. Harvesting of bone stem cells

Lead: Stryker Trauma

4. Cross-border biobank

Lead: Odense University Hospital

5. Organisational and exploitation model

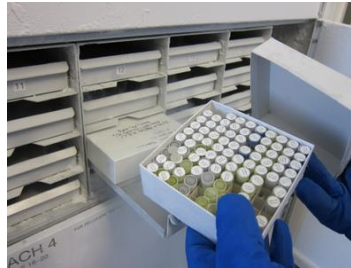
Lead: Life Science Nord Management



Overview Bonebank current status



Harvesting bone stem cells during routine operations



Storage of stem cells in Danish-German biobank



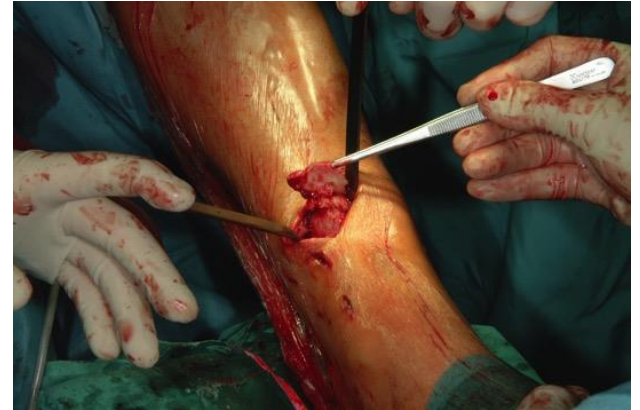
Usage of bone stem cells for research



Harvesting 1



Harvesting 2

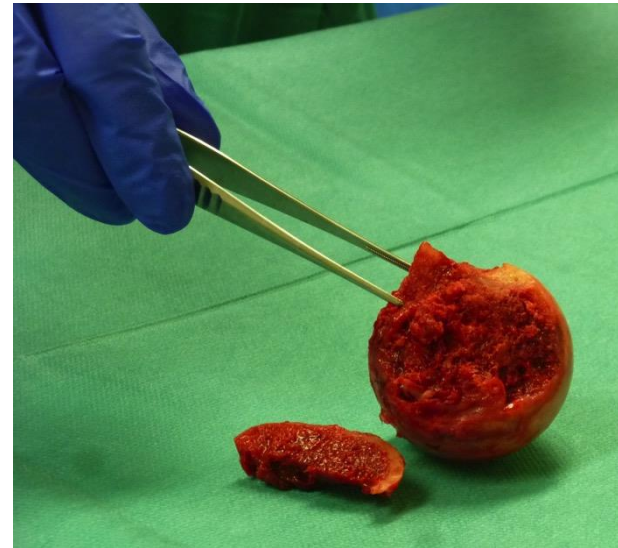


Detailansicht der Knochenbestandteile





The Material



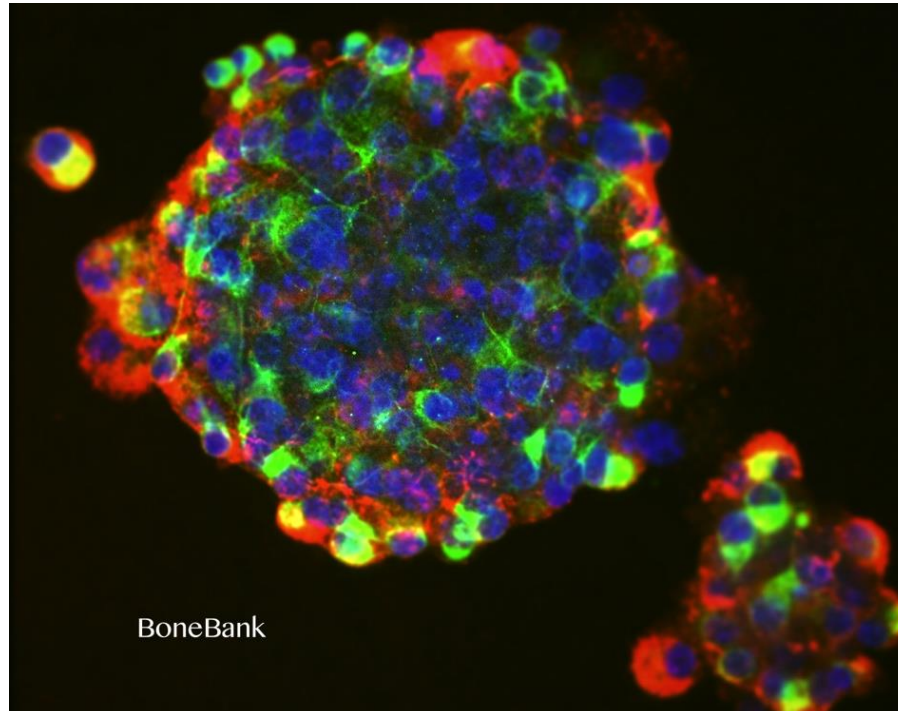


Transport & Biobanking

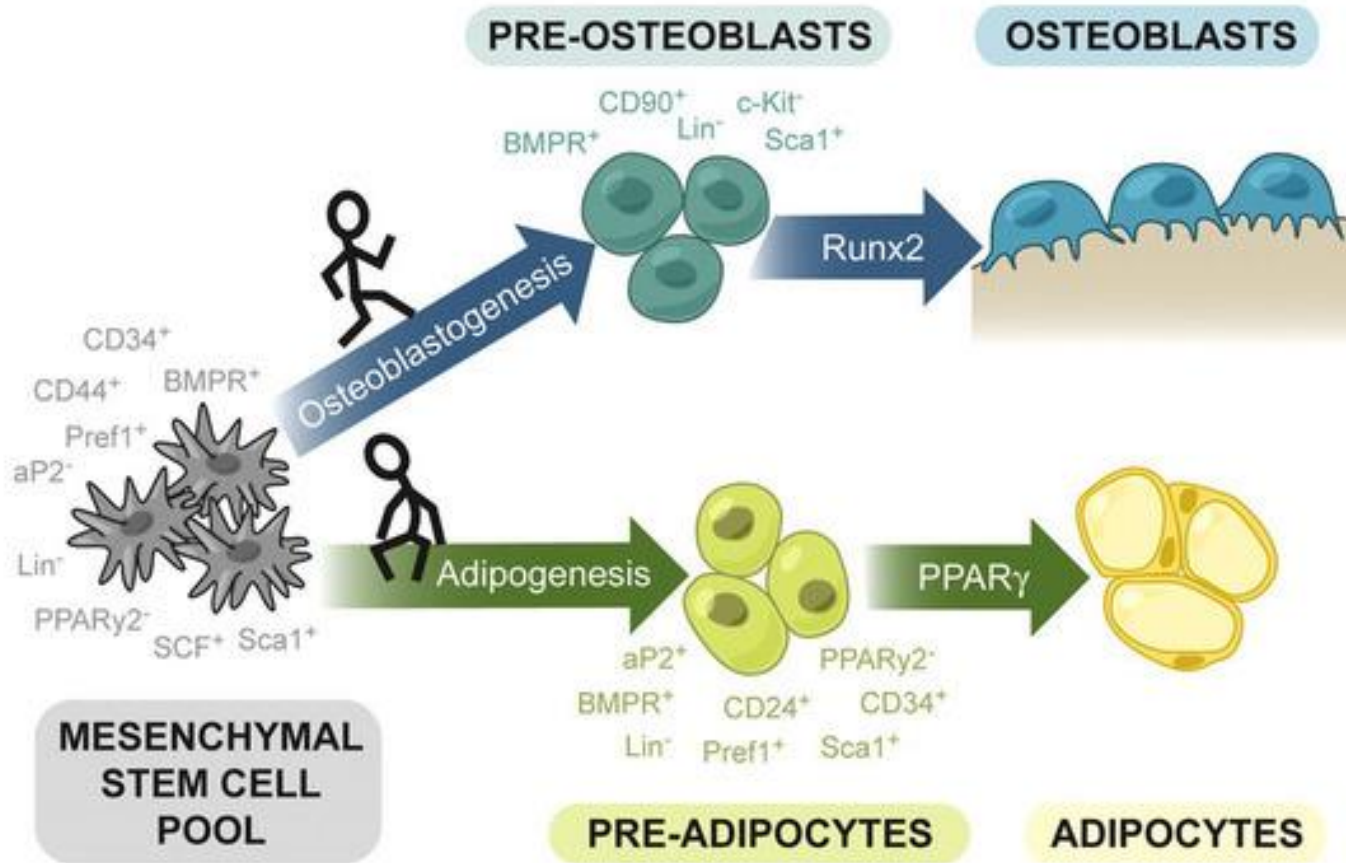




Extraction & multiplication



Differentiation into desired material





Implantation



Unhealed femur for 24 months





Models for the Usage of bone stem cells

- **Own use by patients (autologous)**
- **Storage for future own use**

- Treatment of other patients (allogenic)
- Basic research for the benefit of the general public
- Development of personalised diagnostics, drug development and therapies in the German-Danish border region



Who did we target and why (1)

1. Clinicians and hospitals

to implement the bonebank approach to harvest bone stem cells during routine operations

1. Public and/or private biobank operators

to be part of the bonebank value chain to store and market bone stem cells

1. Public researchers

to use the bone stem cells for clinical research



Target groups and aims (2)

4. Life science industry (biotech, pharma, medtech)
to purchase bone stem cells for research and
development of therapies

4. Politicians and general public
to understand the potentials of bone stem cells for
regenerative medicine and the value of the
bonebank network for the cross-border region



Mange tak!
Vielen Dank!
Thank You!





Contact

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Project Partner

- Life Science Nord Management
- Stryker Trauma GmbH
- Odense University Hospital
- University Lübeck
- Soventec GmbH
- Naestved Sygehus

Project Management

DSN-Connecting Knowledge, Kiel