



UniversityHospital Heidelberg

# Improvement of patient safety through continuous telemetric control of selected vital signs in an outpatient setting after stem cell transplantation

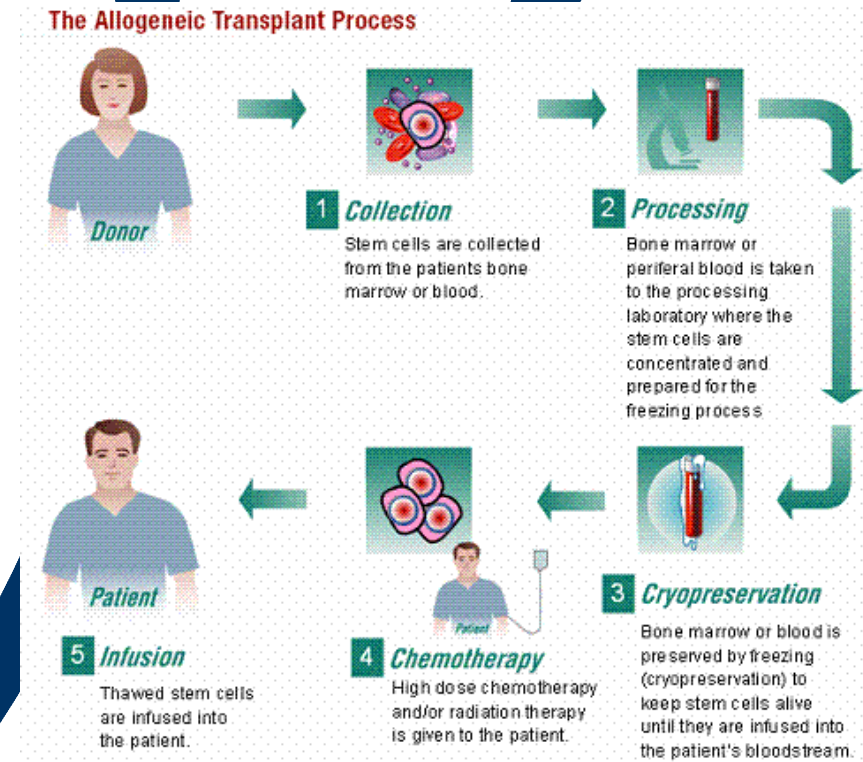
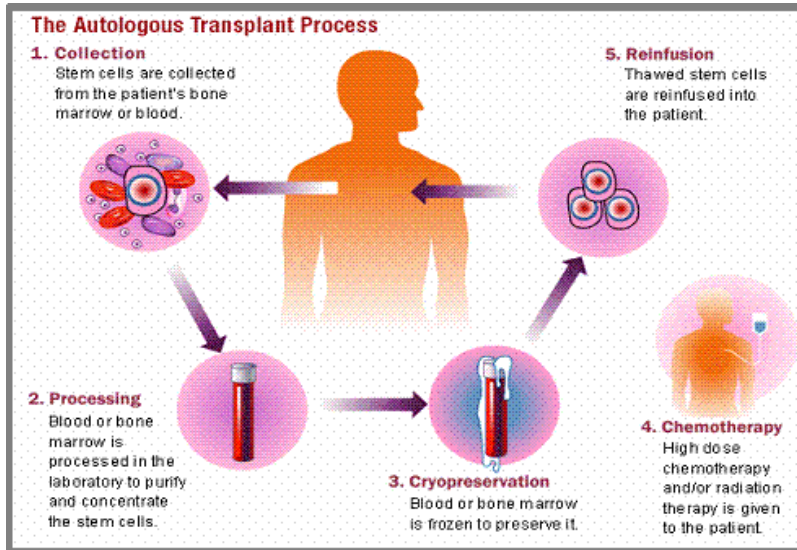
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## Definition

- **Hematopoietic stem cell transplantation** (HSCT) is the transplantation of blood stem cells derived from the bone marrow or blood, most often performed for people with diseases of the blood, bone marrow or certain types of cancer.

# Stem cell transplantation (SCT) procedure





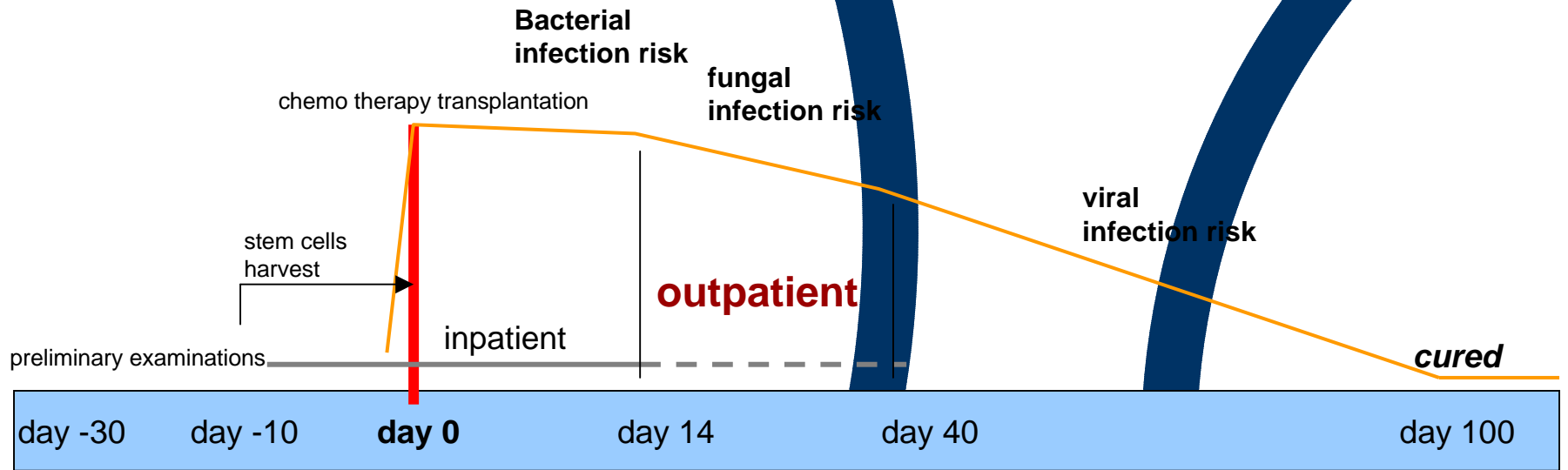
- **Stem cell transplantation (SCT) at the University of Heidelberg**
- >80 allogeneic transplantation in 2007
- About 230 autologous transplantation/year
- Budget for stem cell transplantation 10Mio. €



## Stem cell transplantation as a model for an outpatient setting - why?

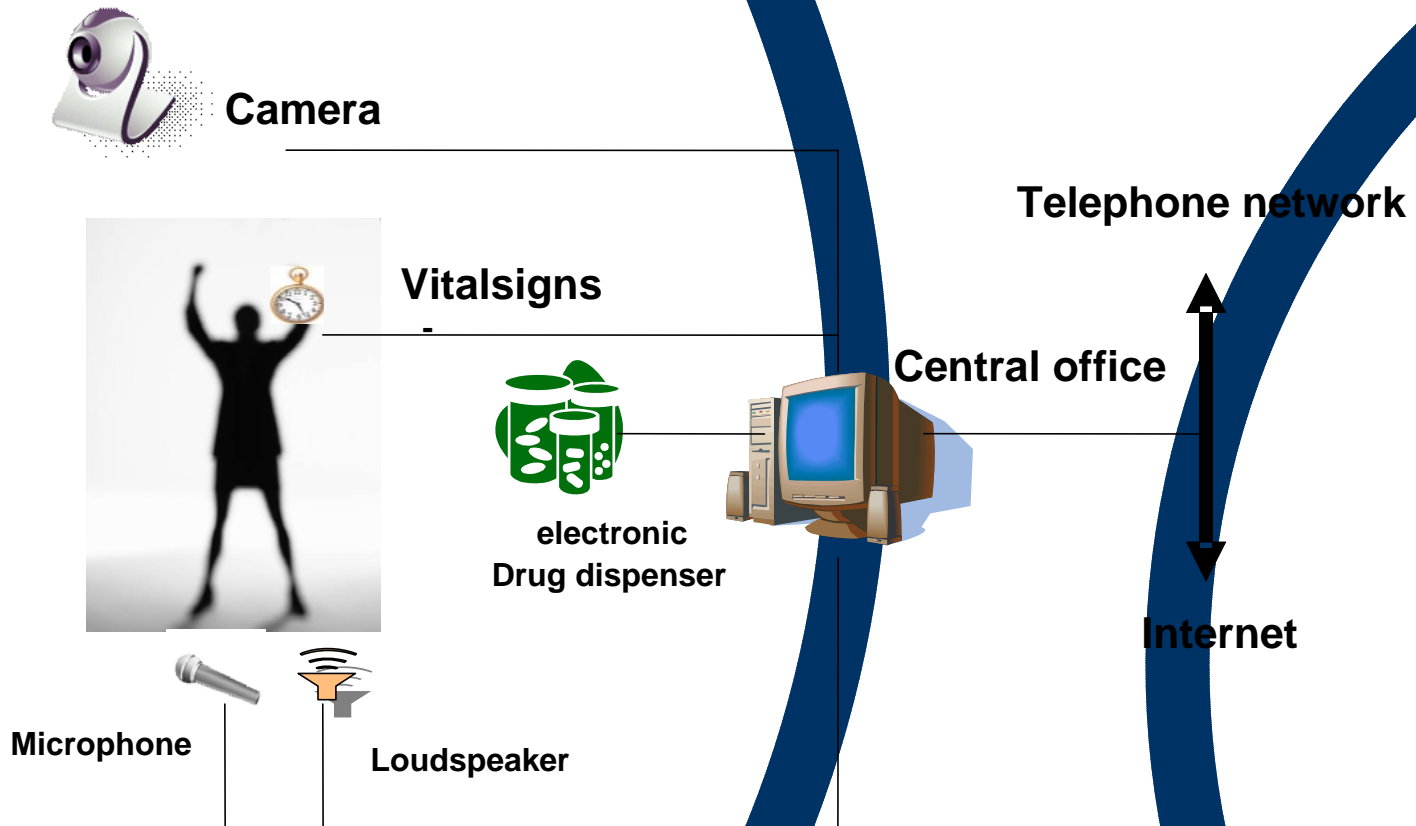
- Repeating standard procedures
- Predictable recovery period
- Recurrent side effects

# Stem cell transplantation (SCT)



Risk chart

# Telemetric control





## Advantages of telemetric control?

- Advantages for the patient
  - Improvement of patient safety
  - Outpatient
  - 24 h monitoring
  - Prompt intervention in case of an emergency
- In general
  - Cost savings



## Project plan

- Development of technical supply
- Check of functionality in general
- Utilisation in an inpatient setting for safety
- Implementation in an outpatient setting as phase I study (MPG)



## Development potential?

- Generalisation in other medical settings
- Implementation for invalid people at home

# Participating researchers



University Hospital Heidelberg  
Internal Medicine V  
Hematology and Oncology  
Prof. A. D. Hoffmann, Ulrike Klein



**Fraunhofer** Institut  
Experimentelles  
Software Engineering

Fraunhofer Institute for  
Experimental Software Engineering (IESE)  
Kaiserslautern  
Prof. J. Nehring

## Requirements concerning the transfer business...

- We are looking for: Business partners for technical development
- We want to achieve: wide acceptance and utilisation
- We need venture capital and start-up financing
  - 100.000 Euro/12month