

# Ralf Thiel



**“Health and plastic pollution in medical care”**

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# Health and plastic pollution in medical care

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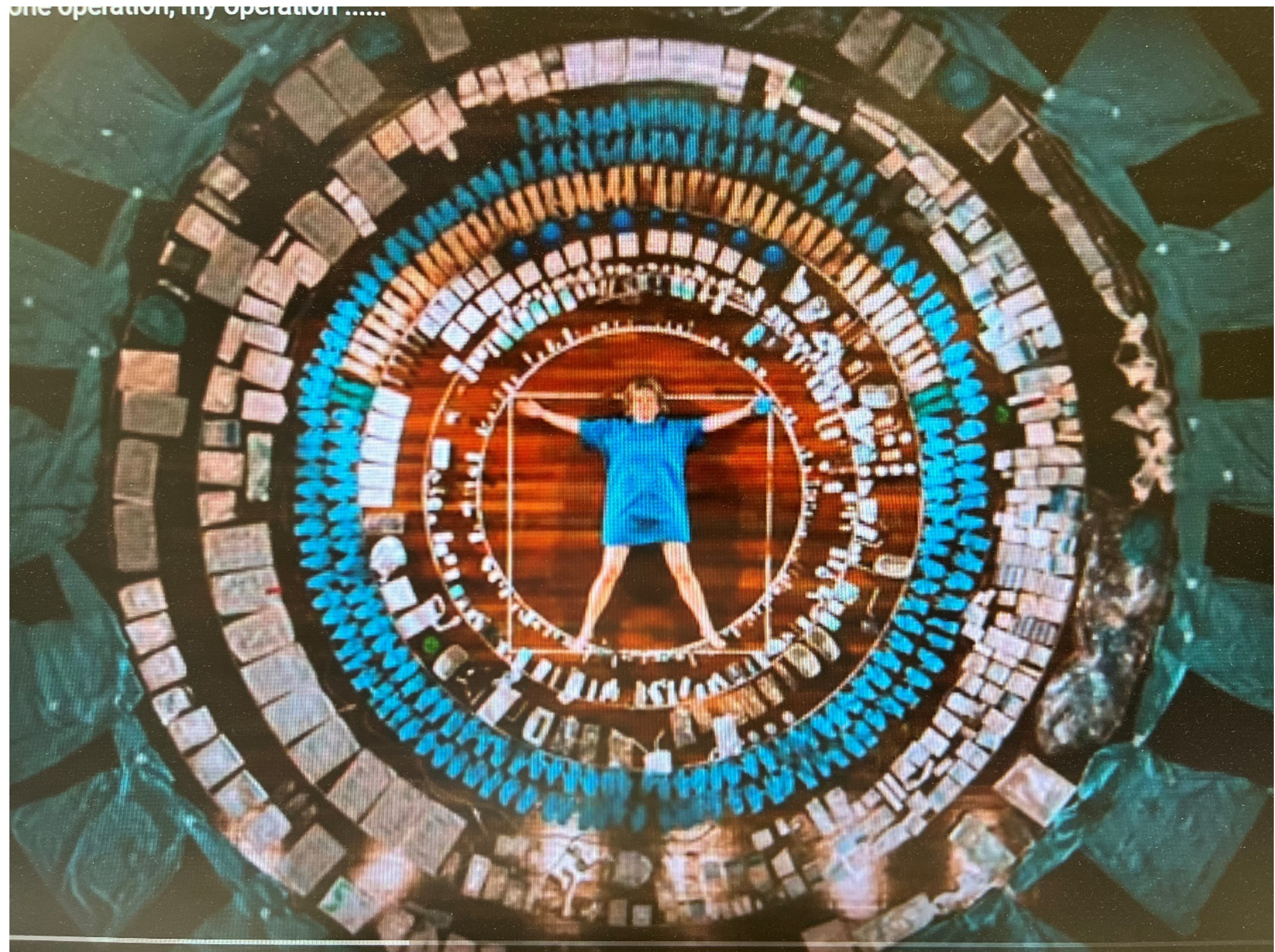
International Director of Health EndPlasticSoup

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# Waste in one single (breast) surgery (Maria Koijsck; NL)





# Sustainability

*„Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs.“*

Brundtland-Commission, 1987

*“Health care’s climate footprint is equivalent to 4.4% of global net emissions (2 gigatons of carbon dioxide equivalent).”*

Health care climate footprint report, 2019

# Aspects of sustainability

- **Ecological sustainability**

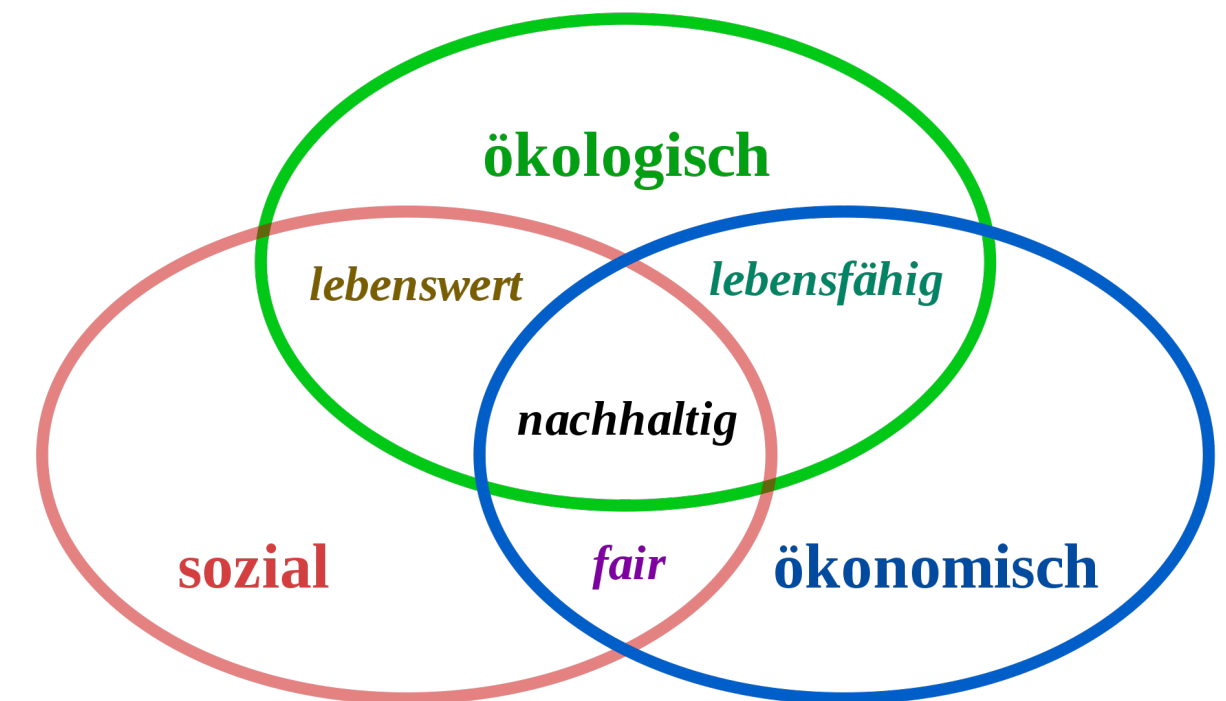
Preservation and regeneration of resources and natural environment

- **Economic sustainability**

Durable without consumption of resources

- **Social sustainability**

Limited social tensions and peaceful living



# Waste in German hospitals

- 1980 hospitals
- 1200 medical institutions (f.e. rehabilitation clinics etc.)
- 75.000 doctor's offices und 42.000 dental offices
  
- 4,8 mill. t/y waste from hospitals (#5 in ranking)
- 7-8 t waste per day (average hospital)
- 400 g plastic waste per patient per day
  
- 60% „household waste“-equivalents;                      20% hospital specific waste
- 10% dangerous;    3% infectious;    7% pollutants



# Waste in medical care per year (Germany)

- 309.000 t „household waste“
- 9.000 t „infectious“ waste
- 6.500 t drugs
- 2.600 t body parts and blood units
- 1.800 t cytostatics
- 800 t sharp instruments
- 200 t chemicals
- 200 t dangerous chemicals



Source: Statistisches Bundesamt



# Decisions of the German Physicians Chamber (BÄK) in 2022

- The German medical system **should** become climate neutral until 2030
- Reduction of CO2 emissions is essential
- Several fields of action are listed and concrete suggestions are made
- Transformation process needs to be initiated
- Quality of medical care should not be compromised





# Fields of action to achieve climate neutrality



- 1. Corporate management** mission statement, sustainability officer, trainings, ...
- 2. Energy** measuring; optimizing, heating, insulation, ...
- 3. Building and property** insulation, windows, green areas, solar panels, ...
- 4. Chemicals** narcotic gases, chemicals, CO<sup>2</sup> (laparoscopy), ...
- 5. Water** flow limiter, rain water, ...
- 6. Waste** reduction, single use materials, waste separation, recycling, ...
- 7. Transport** e mobility , job bikes, video conferences, ...
- 8. Purchasing** CO<sup>2</sup>-foot print calculation and optimization, ...
- 9. Nutrition** meat reduction, regional and seasonal, packaging; ...
- 10. Office/IT** paper reduction, optimization, ...

# Fields of action to achieve climate neutrality

## 6. Waste



Reduction

Single use products

Waste separation and recycling

- Packaging waste
- Reuse
- Reduce unnecessary plastic packaging
- Reduce single use products: multiple use metal instruments instead of single use plastic instruments
- Sterilisation of single use products
- Biological degradable single use products (f.e. gloves)
- Waste separation on wards, offices, OR
- Force industry to taking back single use plastic instruments
- Collecting valuable materials (aluminium, batteries, metals)





# Recycling in our Operating Room





# Actions for waste reduction in hospitals

- Avoid single use instruments of steel (f.e. needle holder)
- Plastic packaging: avoiding, separation and recycling
- Aluminium packaging (sutures etc): collect separately and recycle
- Conclude contract with medical products companies for returning single use products (f.e. automatic suture devices from Ethicon)
- Identification of „valuable plastics“ and recycle separately
- Reintroduction of cotton coats instead of single use plastic coats/scrubs
- Re use scrubs when entering/leaving operation room („rethink hygiene“)
- ...





# Major sustainability actions in hospitals

- **Sensibilize** employer and employees for sustainability issues
- **Nutrition:** more local, more vegetation, ...
- **Energy:** solar cells (photovoltaic, thermosolar, heat pumps)
- **Filter systems** for narcotic gases (green house effect = 2500 x CO<sub>2</sub>!)
- Change fleet to **electromobility**
- Check and evaluate **CO<sup>2</sup>-foot print**
- Start **with small projects** f.e. recycling in the OR
- **Plant trees** in and outside hospital areas
- **Establish sustainability** system/officer/reports/certification







[www.endplasticsoup.org](http://www.endplasticsoup.org)

[www.endplasticsoup-deutschland.de](http://www.endplasticsoup-deutschland.de)

[www.rotary.de/endplasticsoup](http://www.rotary.de/endplasticsoup)

Thank you for your attention!



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