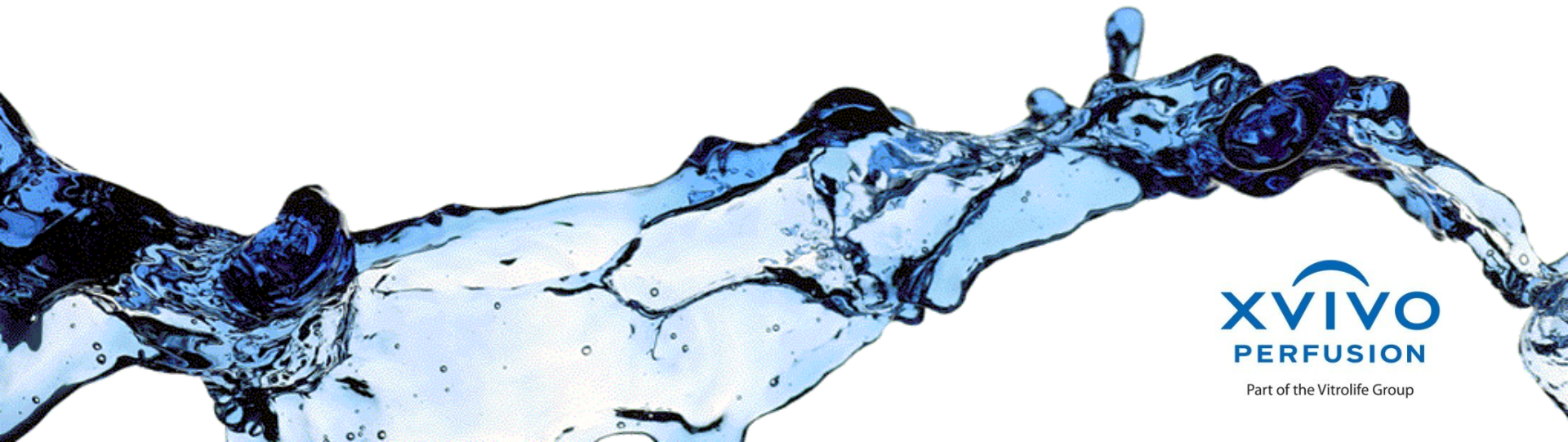


# New Directions in Organ Transplantation:

## *Ex Vivo Lung Preservation*

Chris Jaynes

XVIVO Perfusion AB



**xvivo**  
PERFUSION

Part of the Vitrolife Group

# Current Organ Preservation Strategy:

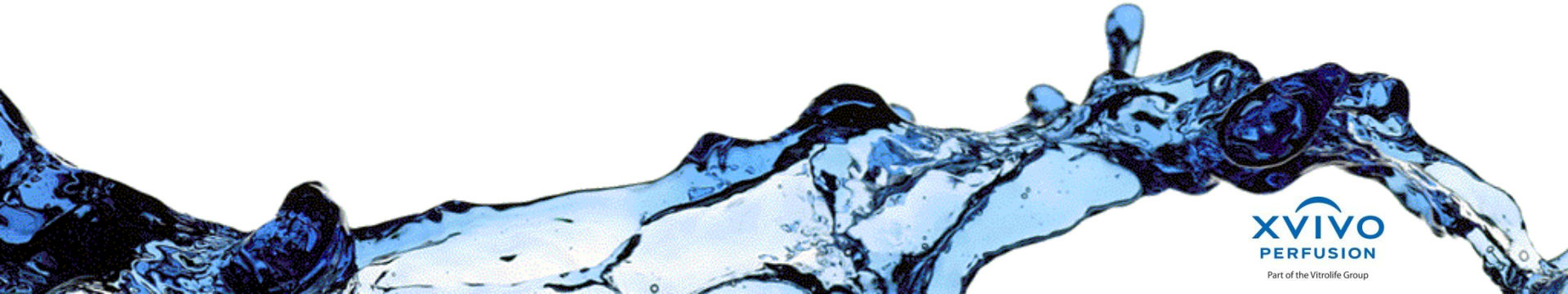
## Hypothermic Preservation Advantages:

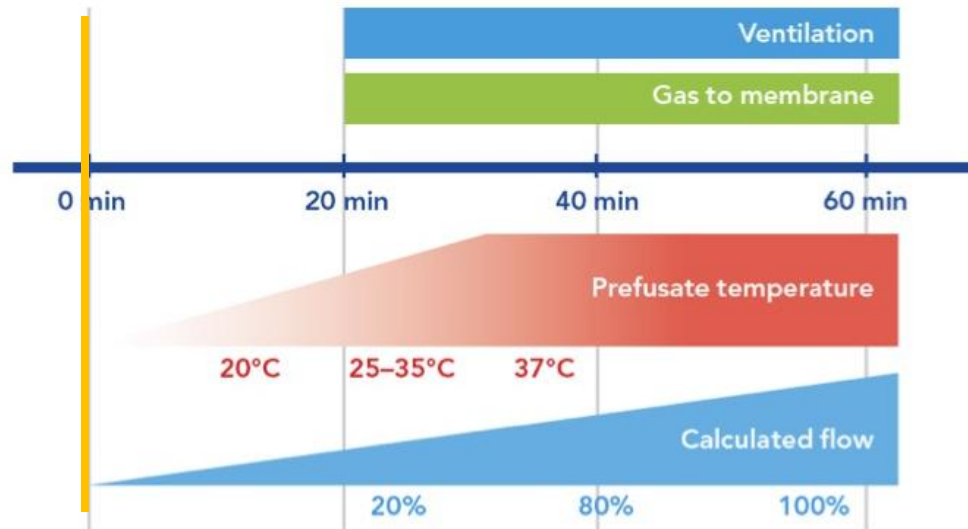
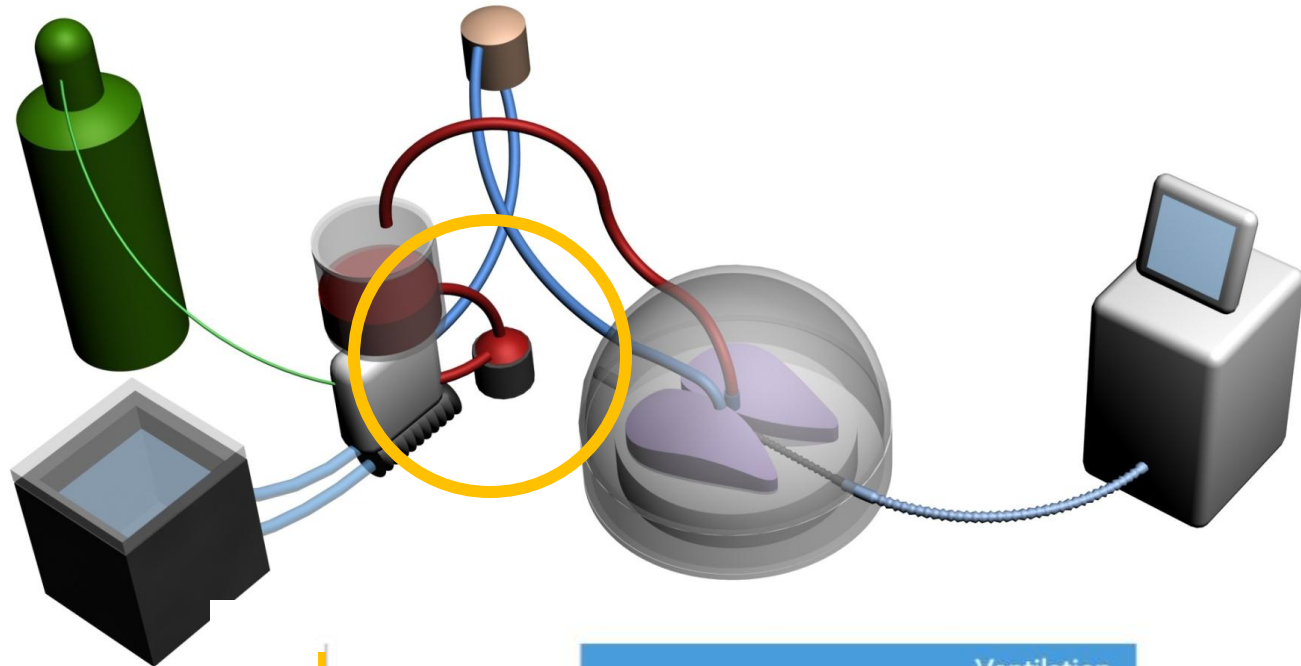
- Decrease organ metabolism ~5% normal
- Less metabolic requirements (glucose)
- Less metabolic waste products (lactic acid, etc.)
- Least expensive method to transport organs

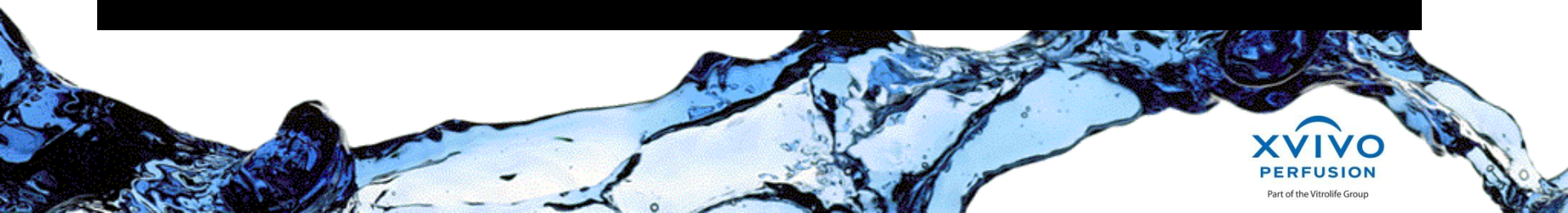


## Disadvantages:

- Short preservation/ transportation window (6-10 hrs for lungs)
- Can't clear metabolic waste products
- Can't rehabilitate organ function at cold temperatures





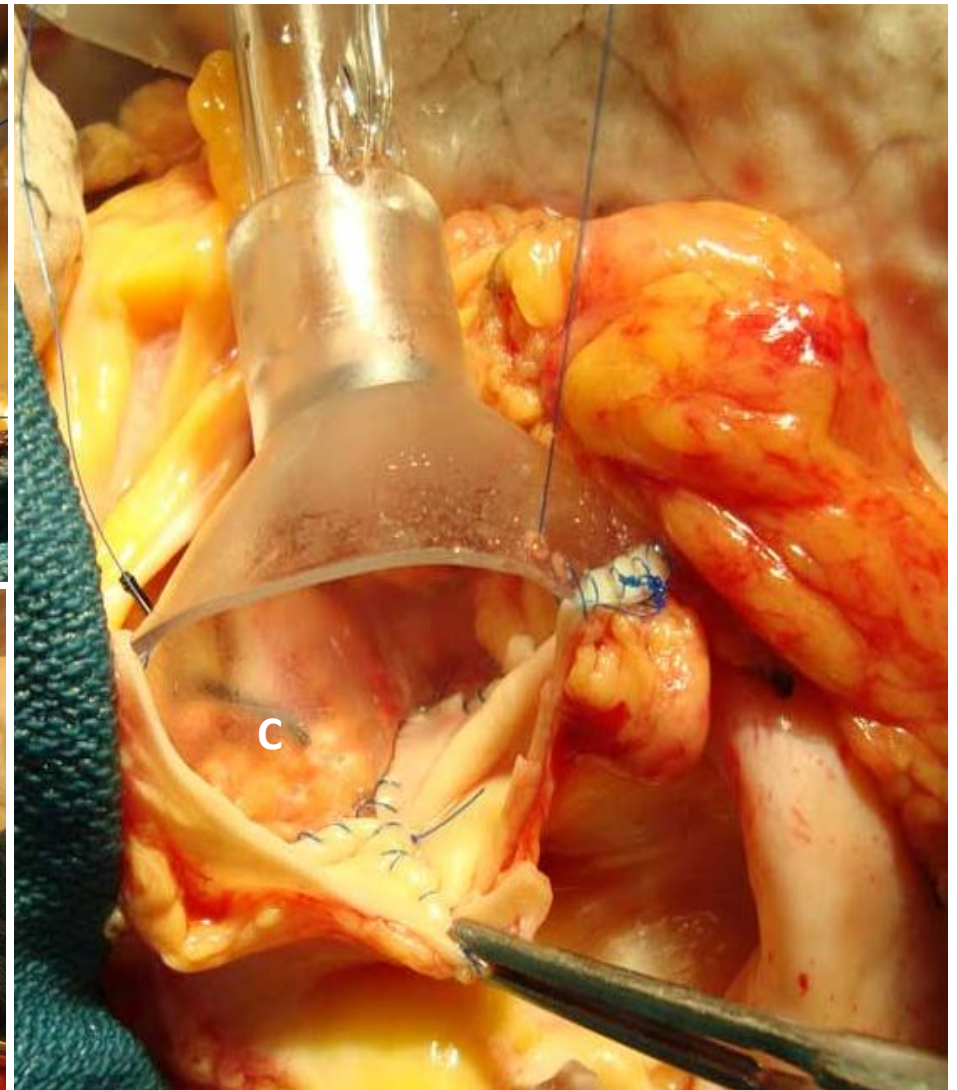
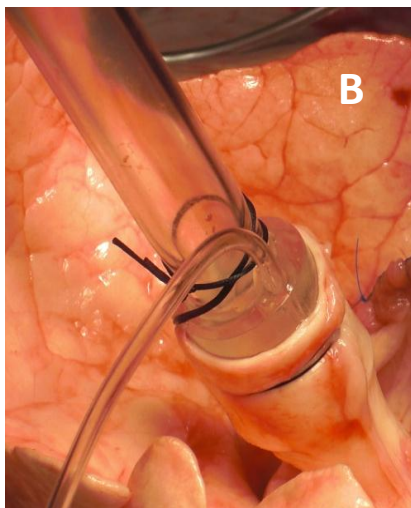
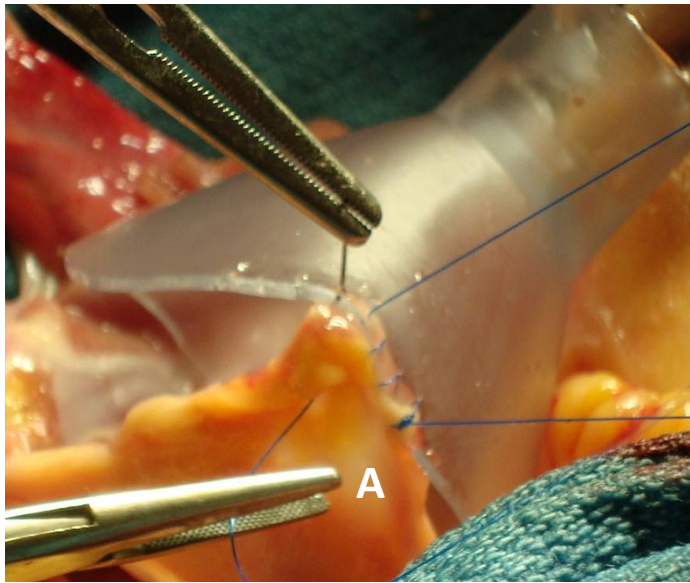




# Equipment

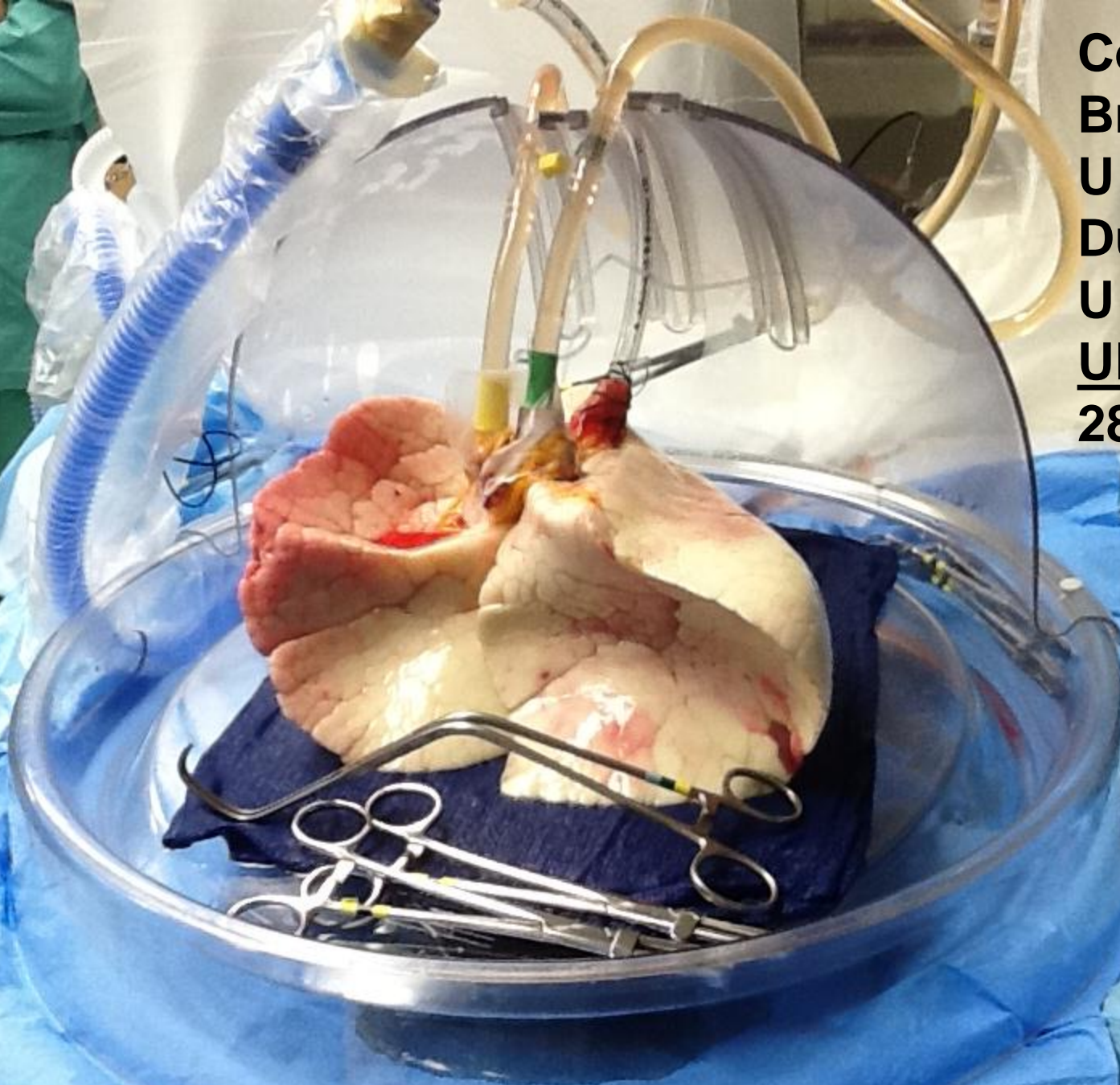


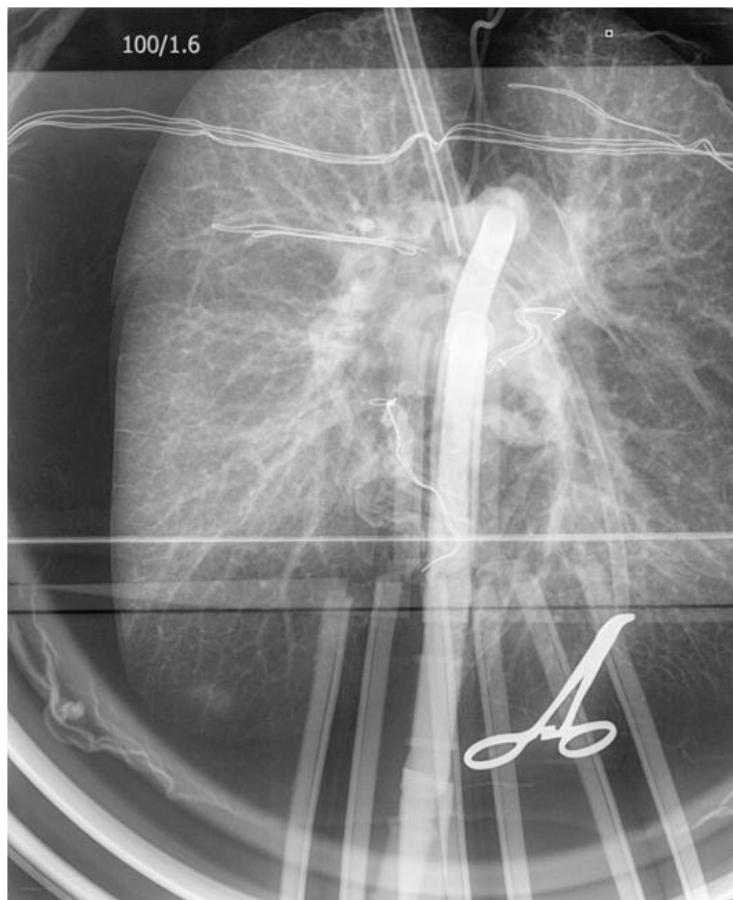
# Cannulation





Columbia  
Brigham  
U Maryland  
Duke  
U Colorado  
UPENN  
28 to date

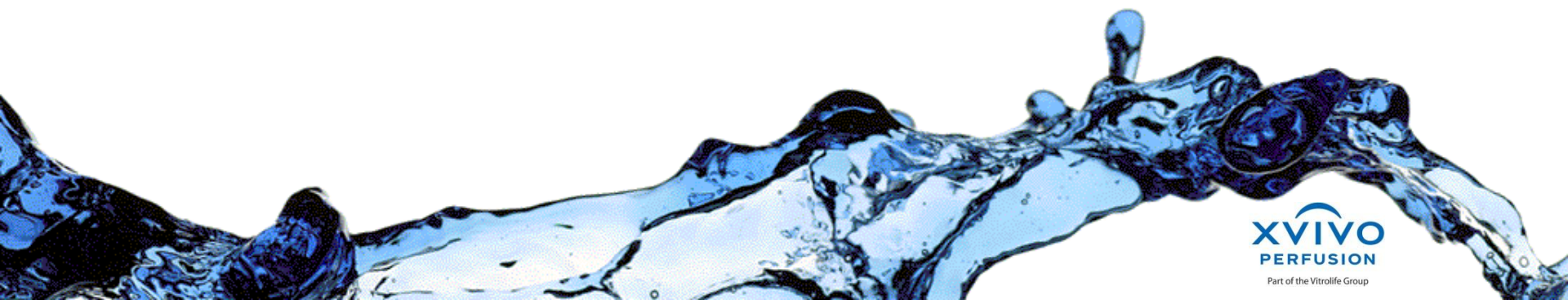




Begin EVLP (20 minutes)

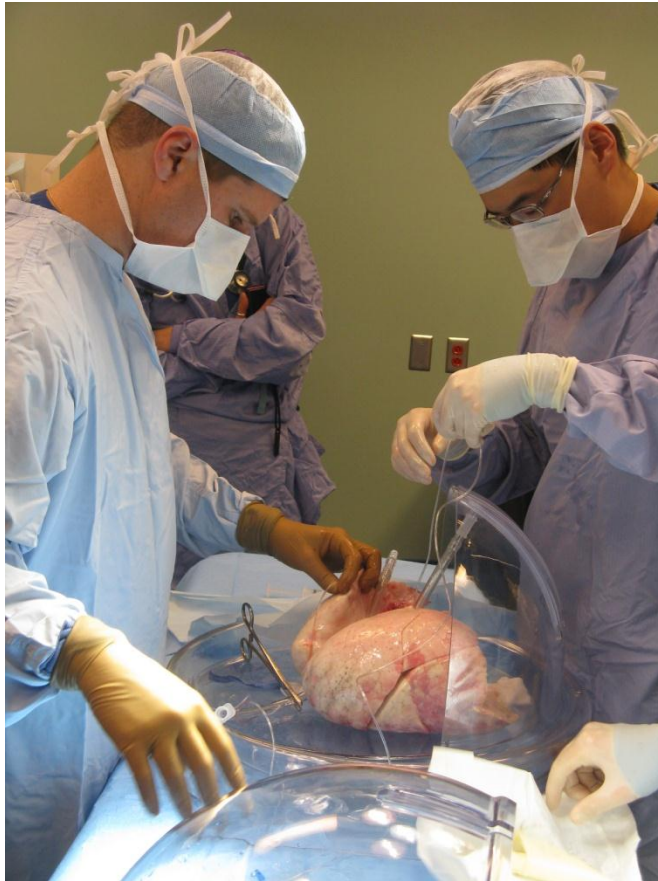


EVLP at 120 minutes

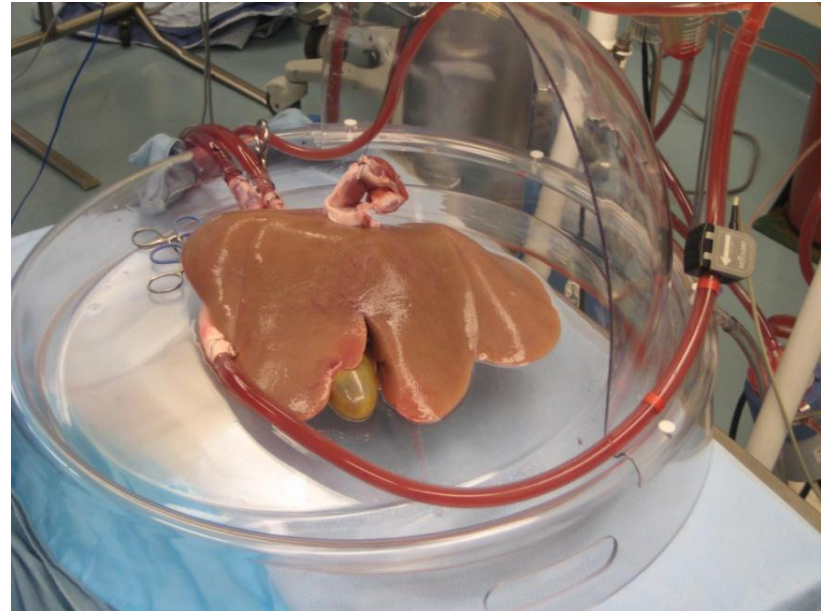




# The Future of Transplantation:

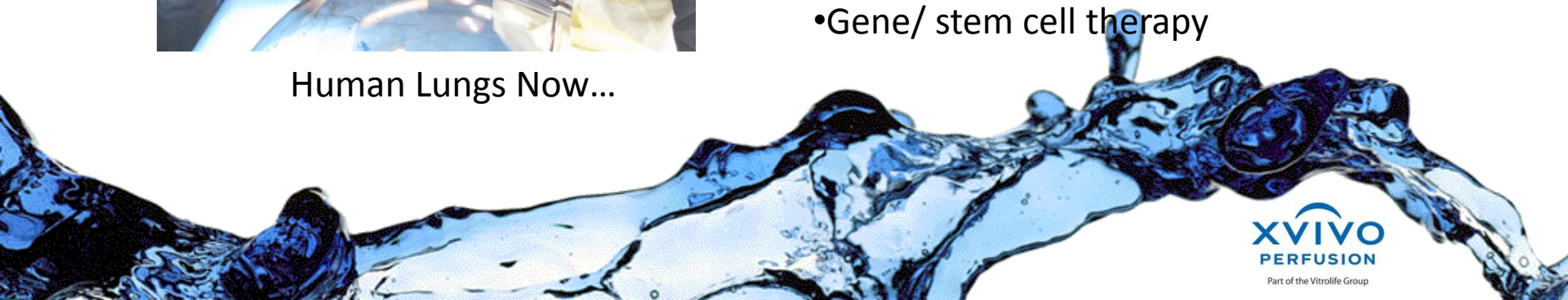


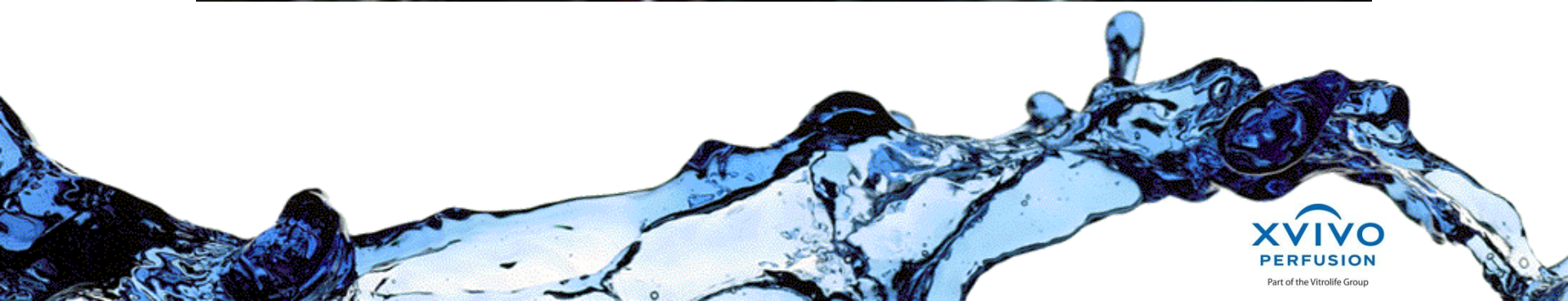
Human Lungs Now...



Human Livers Next...

- Other organs (hearts, kidneys, etc.)
- Other therapies (antibiotics, antifungals)
- Gene/ stem cell therapy





What will we see in the next few years?



What about the next 10 years?