

# Cryobiology

## ONPRC Saturday Academy

### Part 2



OREGON NATIONAL  
PRIMATE  
*Research Center*



OREGON  
HEALTH  
& SCIENCE  
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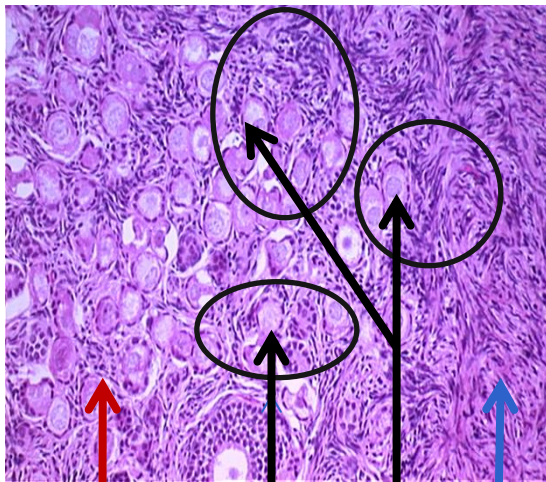
<http://www.ars.usda.gov/News/docs.htm?docid=15744&page=2>

# How can cryopreservation be used for fertility preservation in female cancer patients

- **Oocyte Freezing**
- **Embryo Freezing**
- **Ovarian Tissue Freezing**
- **Whole Ovary Freezing**

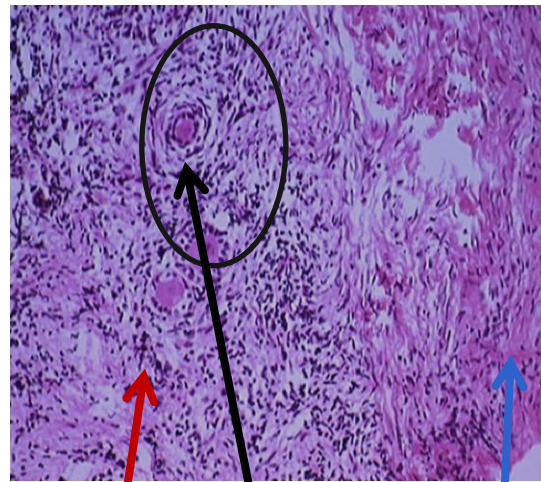
# Fresh vs Slow Freezing vs Vitri-fied Ovarian Tissue

Fresh tissue



Stroma Follicle Cortex

Tissue after slow rate freeze



Stroma Follicle Cortex

Tissue after vitrification



Stroma Follicle Cortex

Low magnification with H & E Staining



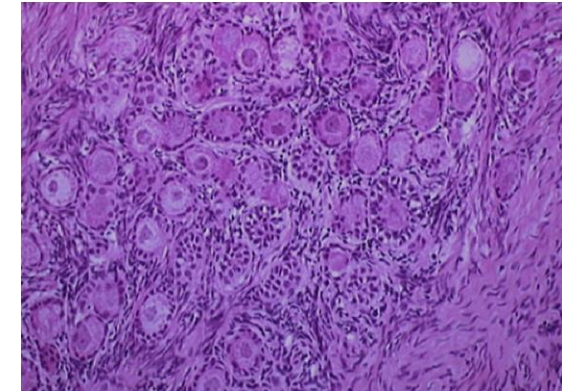
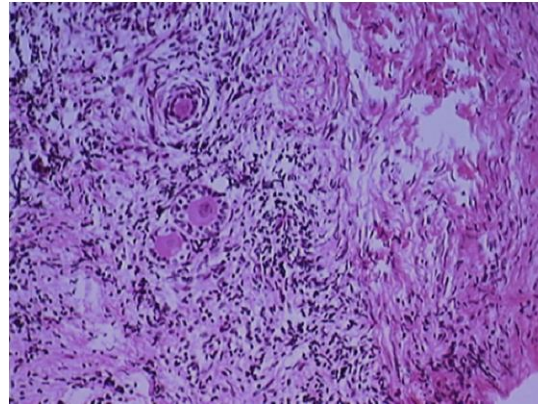
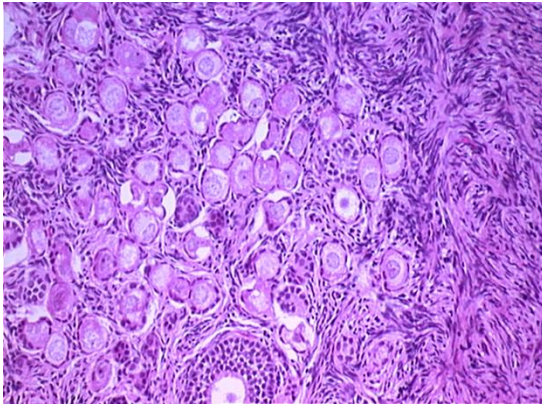
# Fresh vs Slow freezing vs Vitriified Ovarian Tissue

Fresh tissue

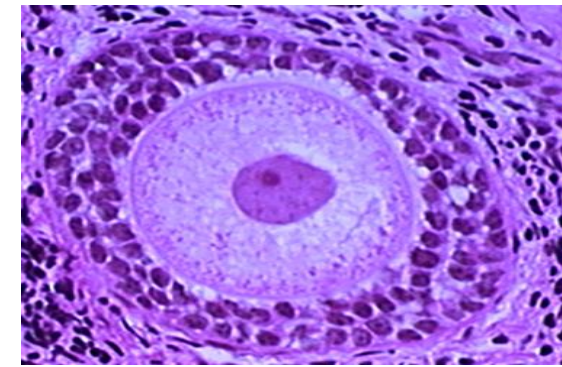
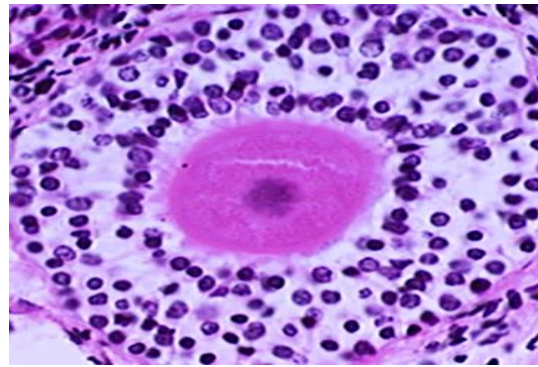
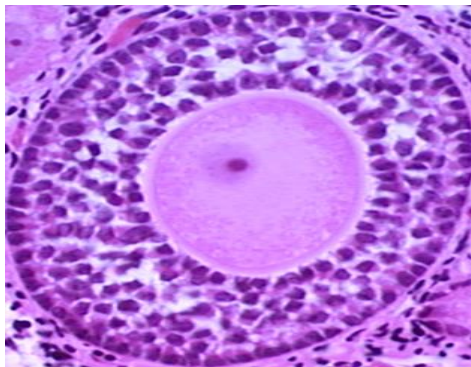
Tissue after  
slow rate freeze

Tissue after  
vitrification

Low magnification  
of follicles



High magnification  
of follicles



H&E Staining

Photos: Dr. Alison Ting, PhD, ONPRC



# Vitrification Conclusions

- Vitrified ovarian tissue had a similar appearance and cell integrity compared to fresh ovarian tissue.
- The slow freezing ovarian tissue had fewer intact and organized cells compared to fresh ovarian tissue.