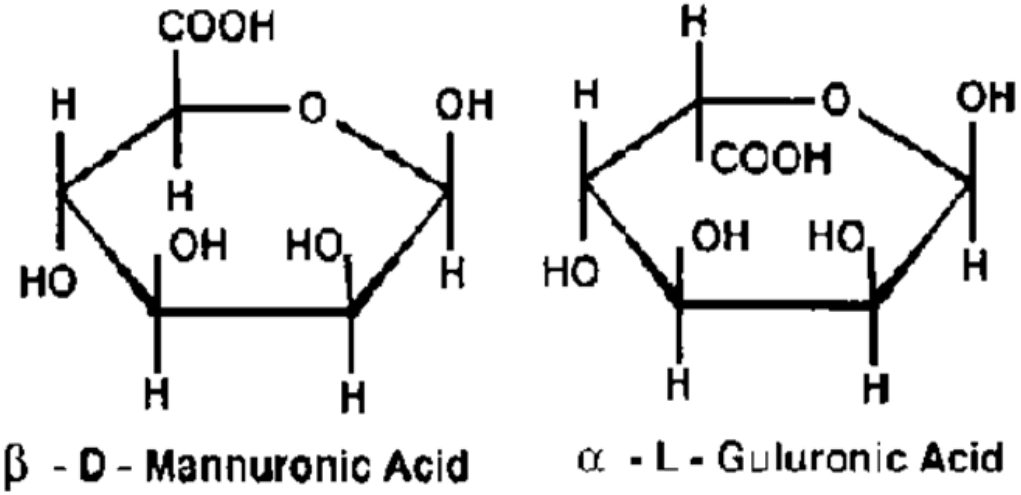
Fertility Preservation Options for Cancer Patients

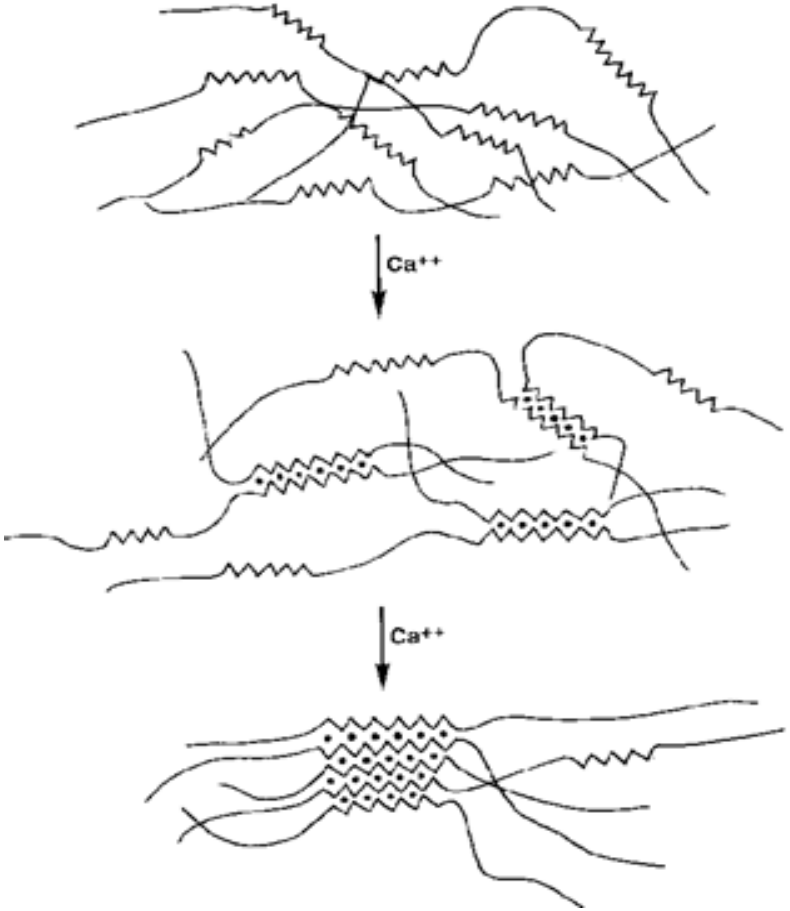
Options for female and male cancer patients under 40 years old prior to chemotherapy, radiation therapy, and bone marrow treatments

Part 3

Culturing Follicles: Alginate Hydrogel

http://en.wikipedia.org/wiki/Alginic_acid#mediaviewer/File:Giantkelp2_300.jpg Public Domain

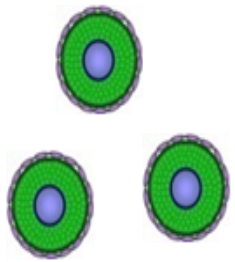




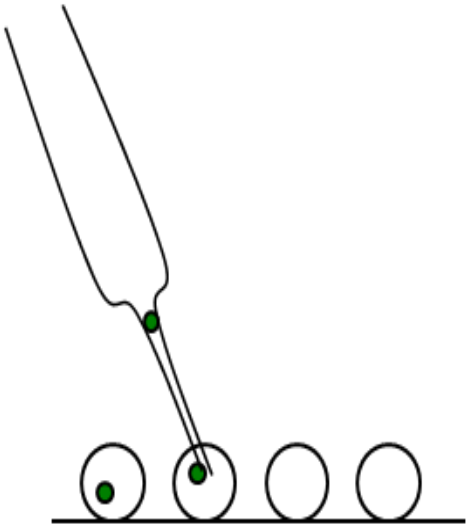
http://www.fao.org/docrep/x5822e/x5822e04.htm
[© FAO] [Chapter 2 – Production, Properties and Uses of Alginates by Dennis J. McHugh], [Page 3] [Page 24][Downloaded 10/7/2014(with permission)]

Growing Follicle in Alginate Beads

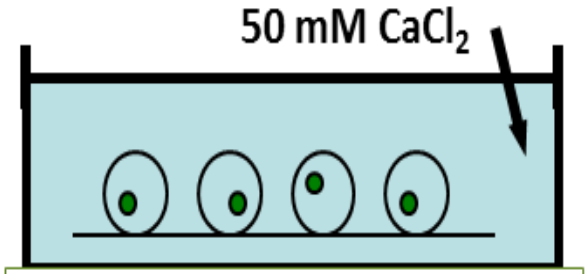
Follicle Encapsulation:



1. Mechanically isolate individual follicles



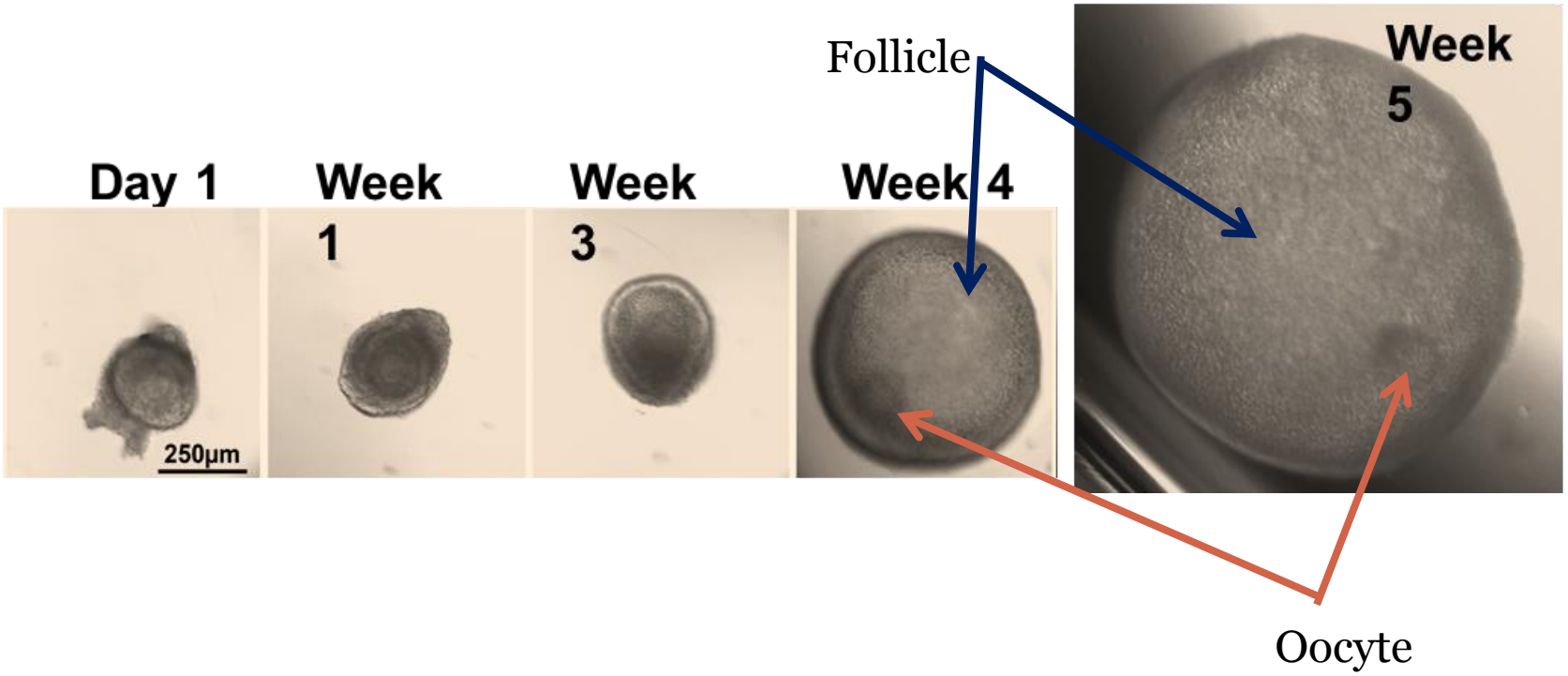
2. Pipette individual follicles into ~2-3µL droplets of alginate on a mesh



3. Invert mesh with forceps and hit side of Petri dish containing 50mM $CaCl_2$; let beads sit for 2 min to gel before transferring to plates for culture

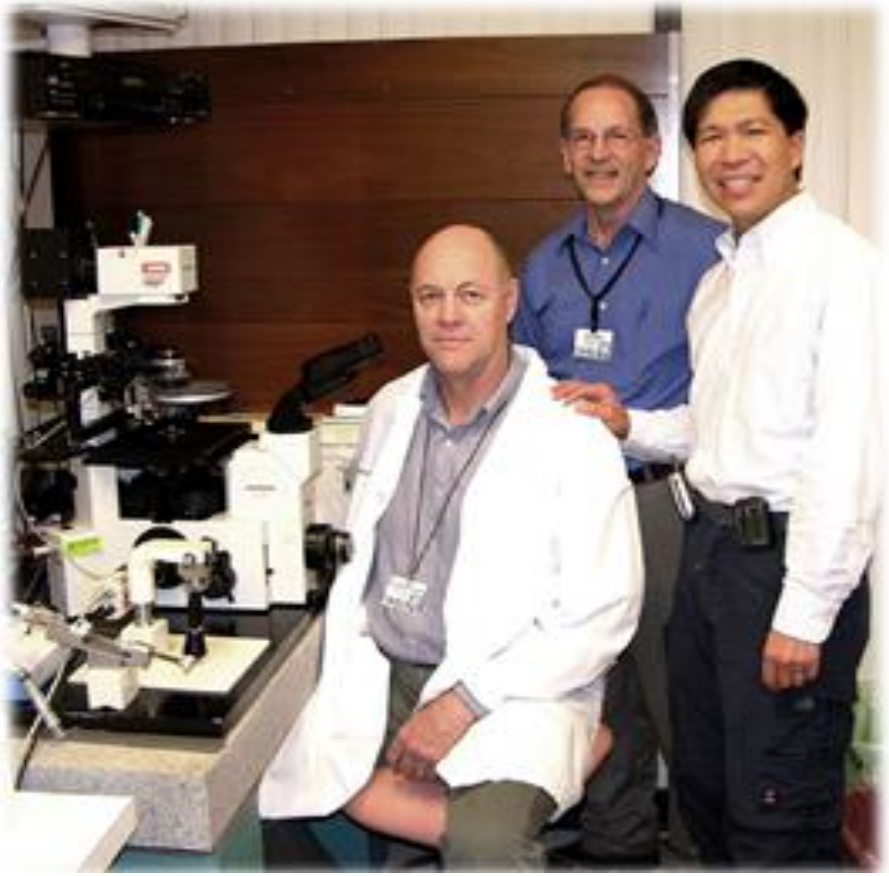
Drawings: Oncofertility Consortium

Rhesus Monkey Follicle Maturation



Photos: Jing Xu, PhD and Mary Zelinski, PhD

Hope for Cancer Patients: Ovarian Auto-grafts



Dick Yeoman, PhD, ONPRC (seated)
Don Wolf, PhD, ONPRC and David Lee, MD, OHSU

Fresh ovarian tissue transplanted in abdomen and arm – Published in *Nature* 428, 137-148 (11 March 2004)

Current challenge:
Frozen-thawed ovarian cortex