

# Biological Samples From Childhood Cancer Survivors

Stella M Davies

Cincinnati Children's Hospital and  
Medical Center

# Sample Collection

- Buccal cell collection
- May 1999 to June 2006
- Median yield 40 ug DNA
- Variable quantity and quality
- Mouthwash is 20% alcohol
- Stings
- Swish and spit hard for small children



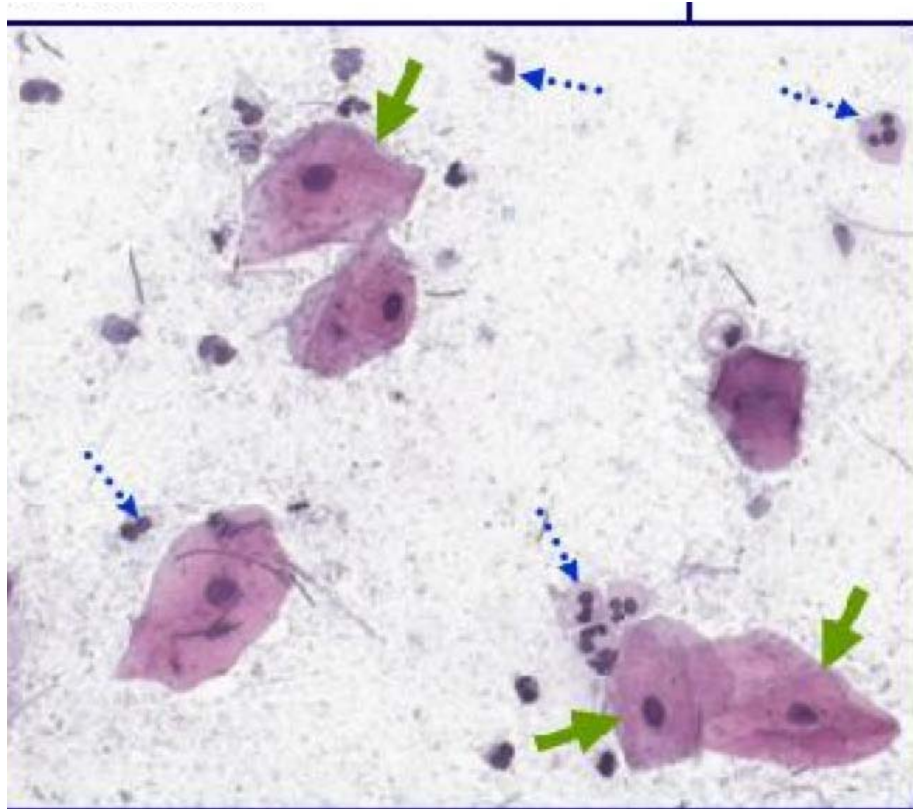
# Sample Collection

- Oragene kits July 2006 on
- Spit into a tube
- Closing the tube releases preservative that stabilizes DNA- stable for months at room temp.
- More DNA (about 5X)
- Less bacterial contamination
- Preferred by participants
- Still hard for very small children



# Where Does the DNA Come From?

- Most of the orogene DNA comes from buccal epithelial cells
- A proportion comes from neutrophils- an issue for patients who have had an allogeneic transplant

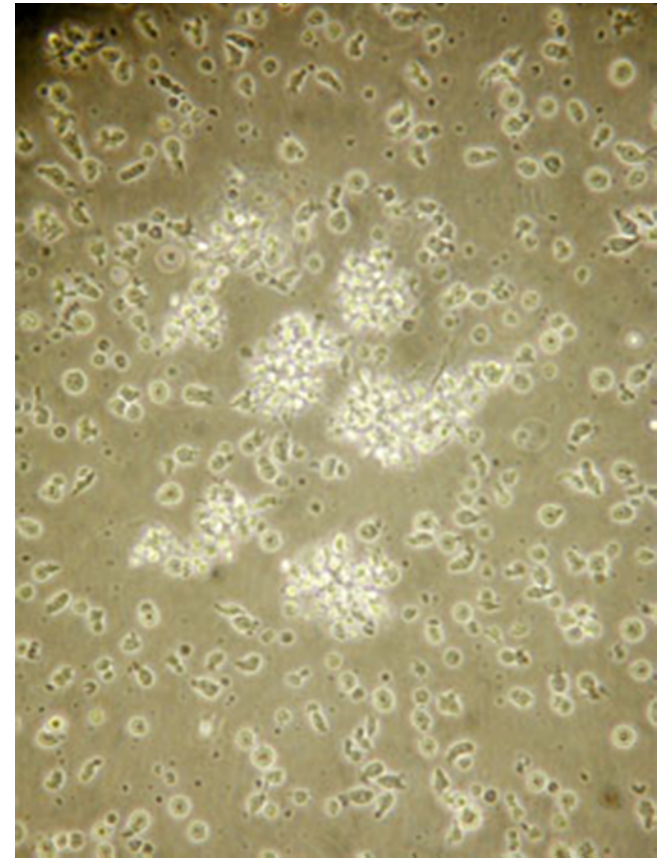


▲ Examples of white blood cells

▲ Examples of buccal epithelial cells

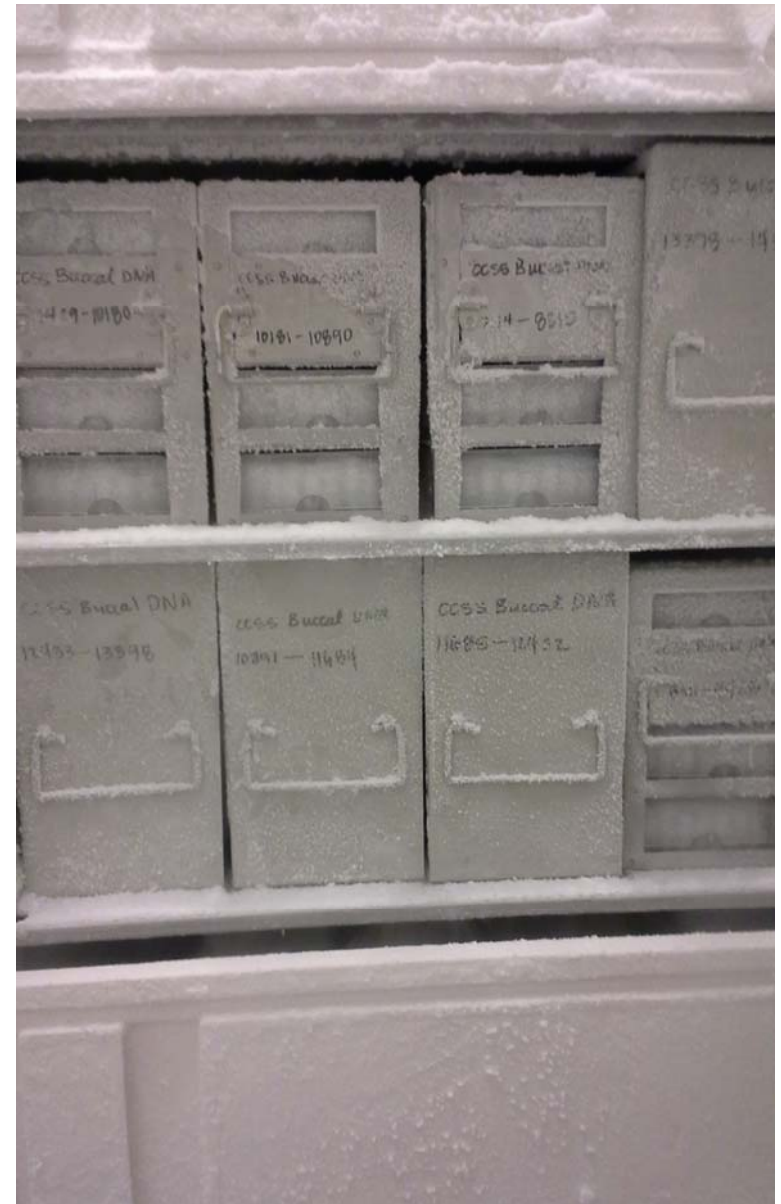
# Sample Collection

- EBV transformed lymphocytes
- Blood collected from survivors with second malignancies
- Renewable resource
- Good for DNA
- Expression may be altered by transformation so not ideal



# How Many Samples Do We Have?

- 73,268 total aliquots
- 16,188 Buccal cell gDNA aliquots
- 14,672 Oragene aliquots
- 8,632 neutrophil gDNA aliquots
- 8,480 plasma aliquots
- 21,300 lymphocyte aliquots (transformed and untransformed)



# How Can You Learn More?

- Lists of samples by primary diagnosis and by second malignancy available on CCSs website.
- Submit queries to Smita Bhatia, Chair of Genetics committee that oversees sample distribution.
- Smita can also address questions of sample quantity and suitability for particular assays.
- In silico SNP data from NIH will be discussed by Dr Morton.