

Collection of Biological Samples in CCSS

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Buccal Cell Collection

- Collected by mail; 6,979 samples collected
- Kit sent with mouthwash, sterile cup and consent
- Participant swishes with mouthwash, packs back in the box and returns in mailing box with pre-paid postage and consent
- Brushes for sensitive mouths!
- Few technical failures: about 3% re-request
- Median: twenty micrograms DNA; >200 PCR reactions per sample

Buccal Collection: Initial Cohort

	Survivors	Sibling Controls
Eligible	12547	4005
Contacted	12482	3185
Agreed but not sent	3797	10
Pending	562	1519
Active refusal	1496	258
Received	5795 (46%)	1184 (29%)

Are Participants in Buccal Collection Representative of the Cohort?

- Diagnoses representative of whole cohort
- Participation: 49% white; 25% black
30% other races
- Participation: 43% males; 49% females
- 60% SMNs participated

Bloods: SMN's and Volunteer Controls

	Survivors	Controls
Letters Sent	407	
Consents Returned	242	
Received	206 (51%)	

Utilization; Published

- Mertens et al. XRCC1 and GST Polymorphism and Susceptibility to Radiotherapy-Related Malignancies in Survivors of Hodgkin's Disease *Cancer* 2004; 101:1463-72.
- Ross et al. Genetic Variation in the Leptin Receptor Gene and Obesity in Survivors of Childhood Acute Lymphoblastic Leukemia *Journal of Clinical Oncology* 2004; 3558-62.

Utilization; In Progress

- Predictors of Cardiac Outcomes: Bhatia, Relling, Aplenc et al.
- ARLTS Polymorphism and Multiple Cancers: Davies et al.
- Susceptibility to Deafness: Blatt et al.

Blood Collections

- SMNs and volunteer controls
- Coordinating center identifies cases; sends letter to participant
- Two weeks later: follow-up call
- Consent received; EMSI contacted
- EMSI collects blood at participants convenience
- EMSI ships overnight to lab in Cincinnati

Blood Collections

- 20-40 mls blood
- Plasma stored
- Cells separated
- Half transformed (renewable source of DNA)
- Half frozen as viable cells

Utilization

- Hendrickson et al; DNA-PK in leukemia
- Nikiforov et al; In Vitro Model of Susceptibility to Thyroid Cancer

Continuing Activities

- Collection of samples from initial cohort without active refusal
- Collection of blood from newly reported SMNs
- Collection of buccal cells from expanded cohort

Challenges

- Increased overall participation (?goal 80%) and increased representativeness
- Increased utilization
- Collection of samples suitable for newer technologies; ? more blood less buccal cells; ?proteomic profiles