Dear Radiology Tech,

My name is Dr. Simeon Boyd. I work in the International Craniosynostosis Research (http://health.ucdavis.edu/pediatrics/boyd-genetics-lab/index.html), for which a patient from your institution has enrolled in our study. We need your help in acquiring a head CT for our study. The patient or his parent(s)/guardian (for minors) have filled out study consent and a medical release form to allow us to collect CT data. Your help is appreciated, and below you will find quick pointers on CT data formats we need copied onto the CD for our study.

If you have any questions, please feel free to contact me: (916)703-0454, or sboyd@ucdavis.edu. The CD may be sent to us by FedEx, and billed to the recipient. Our address is: Boyd Lab, UC Davis, 4625 2nd Avenue, Room 1204, Sacramento, CA 95817

What we need to work properly:

1-**Native DICOM** format files are the preferred format and are our standard. Please do not archive CT exams with compressed DICOM format because we will not be able to use them. Radiology departments should have the capability of uncompressing DICOM files and copying the uncompressed images to CD. (We can also read earlier versions of DICOM, DICOM1 and DICOM2 as well as version 3.0 and ACR-NEMA version.)

2-**Entire skull** images with or without the whole mandible. The presence of the whole mandible is preferred but a complete neurocranium is our priority. Please do not select CT exams where the last slices corresponding to the very top of the neurocranium are missing. Very often (at least with teenagers and adults) the maxillary teeth are not included in the CT exam to prevent including artifacts from dental implants or crowns. We can use images that do not include the maxillary teeth as long as the rest of the maxilla is included. Please understand that we want the most complete amount of information possible for each specimen.

3-**Diagnosis** of the subject of the CT exam (what type of craniosynostosis and which side if it is an asymmetric craniosynostosis) and whether the CT images were acquired **before or after surgery**.

4-We need to know about **image features** (slice thickness, pixel size and so on). The best source for all this information is the DICOM header and this is one of the reasons why we prefer the native DICOM files. If the files are already anonymized (identifiers stripped from the headers) we need to know the **sex** and the **exact age (in days)** of the patient. Of course, knowing the **date of the CT exam** and the **birth date** of the subject will allow us to calculate this.

What we do not need:

1-We do not need any 3d visualizations, xray views, lateral cuts, or transversal cuts. We just need the folder with the native DICOM files with the best (thinnest) slice thickness available (0.75mm is better than 5mm).

2-We do not need the software provided by the CTs manufacturer to read the data on the CD or DVD. However, if one cannot copy the data of interest without the software, burn everything and we will sort the data. If it is not possible to choose among the data sets available, burn everything and we will sort the data.
Thank you very much for your help!

Sincerely,

Simeon Boyd, M.D.
Principal Investigator