2014-11-07 JCEG Meeting Notes

Overview

Today there was the Summary session, which summarised what has been discussed and covered yesterday.

Details

Ludlow and Walker article, radiation lower and meets <30µS for acquiring pan/ceph/CBCT and allows user to look through the volume. Recent existing radiographs should be shared and utilized, particularly pans, bitewings and periapicals from general dentists. If existing radiographs don't answer the clinical question, then an additional study should be acquired. Low dose CBCT images can be the initial evaluation tool for orthodontics. If cases are sufficiently complex, the orthodontist may want volumes to inspect. One radiographic series for mixed dentition patients could be a lateral ceph and a small volume CBCT of the developing dentition. With the newest machines, a full volume CBCT may impart a lower dose of radiation.

The discussion considered whether a conventional digital panoramic radiograph is of diagnostic value. Medico-legal considerations exist if the initial CBCT is not of diagnostic value for pathology and whether the study should be sent to an oral pathologist for review.

JCEG will propose to CODA that CODA standards must include a statement requiring education on CBCT. Access to a CBCT machine must be available for accreditation of an orthodontic specialty program. A draft proposal to CODA will be developed by Hans, Palomo, Covell, and Evans. (Look at reference: Brown et al. Dentomaxillofacial Radiology 2014: 43, 20130291. Basic training requirements for the use of dental CBCT by dentists)

Based on our history and research archives, the ceph image still has utility. JCEG will inform ABO that it is possible to superimpose mixed media images. JCEG members will work with SCDI WG 11.6 on creating a white paper on superimposition.
PA cephs are still being taken in some situations, but have little diagnostic value. For asymmetries, it is possible to create right and left half images to do assessment of change for each side of the face independently.

Post-treatment radiographs taken after the appliances are removed have no therapeutic value. It makes more sense to take the records shortly before the end of treatment so that final adjustments can be made if needed. Root parallelism is seen better on CBCTs than on panoramic radiographs.

Only limited criteria for 3D diagnosis of abnormal eruption paths from CBCTs exist.

A database checklist is in use at SLU that may help in setting up a database of 3D images. For norms, how should images be classified? Untreated, age or maturity indicators, gender, ethnicity (by self report), Class I molar relationship, good facial balance. Height for males is a good maturity indicator. Start with 12 yo Caucasian female and make one norm as proof of concept in MS student projects. A software program called FaceGen makes average 3D pictures from 2D photos.

Other items on the discussion list are:

- 2D midline data
- Study models
- BL angulation norms
- Longitudinal face scans

Surface scanners of interest are face scanners, intraoral scanners, and model/impression scanners in open source formats. Acceptability for aligner laboratory submissions is important. Videos in 2D and 3D have potential uses. Current versions of intraoral scanners are bulky and slow. The patent on Invisalign runs out in 2 years.

Next year's meeting

late October/early November 2015.