

**MICHIGAN DEPARTMENT OF COMMUNITY HEALTH
COMPUTED TOMOGRAPHY STANDARD
ADVISORY COMMITTEE (CTSAC) MEETING**

Wednesday September 29, 2010

Capitol View Building
201 Townsend Street
MDCH Conference Center
Lansing, Michigan 48913

APPROVED MINUTES

I. Call to Order

Chairperson Brooks called the meeting to order @ 9:35 a.m.

A. Members Present:

James R. Pedersen, International
Lawrence Ashker, DO, Genesys Regional Medical Center
Sharon L. Brooks, DDS, MS, Chairperson, Michigan Dental Assoc.
Suresh Mukherji, MD, Vice-Chairperson, University of Michigan Health System
David J. Kastan, MD, FSIR, Henry Ford Health System
Anthony L. Alcantara, MD, St. John Providence Health System in @ 9:43 a.m.
Daniel Shumaker, MD, FA, Michigan Radiological Society
Rod J. Zapolski, Mid Michigan Health
Robert M. Goodman, DO, Blue Cross Blue Shield/ Blue Care Network
Renee K. Myers, Chrysler Group, LLC

B. Members Absent:

Bradford W. Betz, MD, Spectrum Health
Stephen Meier, Xoran Technologies Inc.
Abdalmajid Katranji, MD, Michigan State Medical Society
Michael Altman, MD, Marquette General Health System

C. Michigan Department of Community Health Staff Present:

Tania Rodriguez
Natalie Kellogg
Stan Nash
Irma Lopez
Brenda Rogers
Matt Weaver

II. Declaration of Conflicts of Interests

Vice –Chairperson Mukherji, MD stated he used to consult with Phillips Medical Systems, which is not currently active.

III. Review of the Agenda

Motion by Pedersen, seconded by Dr. Ashker to accept the agenda as presented.

IV. Review of Minutes of August 25, 2010

Review of Minutes revealed two corrections- Pedersen was not present for the August 25, 2010 meeting. Secondly, Chairperson Brooks stated the July 22, 2010 meeting agenda needs to be modified to read minutes versus agenda. Motion to accept modified minutes by Dr.Kastan, seconded by Zapolski.

V. Dental CT Presentation

Given by James R. Geist, DDS, MS & Rhonda J. Henessey, DDS
(Attachment A)

Public Comment:
Dennis McCafferty, Economic Alliance for Michigan
Bob Meeker, Spectrum Health

Break @ 11:18-11:34

VI. Portable Point of Care Discussion

- A. Expanding Participants
- B. Extending the Pilot Project (timeframe)
- C. Reporting Requirements
- D. Collecting More Data

Public Comment:
Bob Meeker, Spectrum Health

Vice-Chairperson Dr. Mukherji and Goodman will email committee members and work on a presentation for the next meeting.

Public Comment: Brett Jackson, Economic Alliance for Michigan

Public Comment: Keith Haines, Neurologica

Motion to extend Pilot Project until 2013 by Dr. Goodman and seconded by Dr. Kastan.

Motion voted on and motion carried by vote of 9-Yes 1-No.

Public Comment: Keith Haines, Neurologica

VII. Mini CT Scanners- Discussion

- A. Chairperson Brooks proposed that this discussion wait until the next CT SAC Meeting
- B. Dr. Shumaker would like detailed agenda for next meeting to list discussion topics under Mini CT Scanners (office space scanners).

Public Comment:

David Louick- Xoran Technology, Inc.

VIII. Next Steps & SAC Work Plan

- A. Finish up the Portable Point of Care Scanner with reporting metrics
- B. Dental CT Scanners- Finalize Decision to regulate
- C. Mini CT Scanner- continue regulations

IX. Future Meeting Dates

- A. October 27, 2010
- B. November 17, 2010
- C. December 9, 2010
- D. January 13, 2011

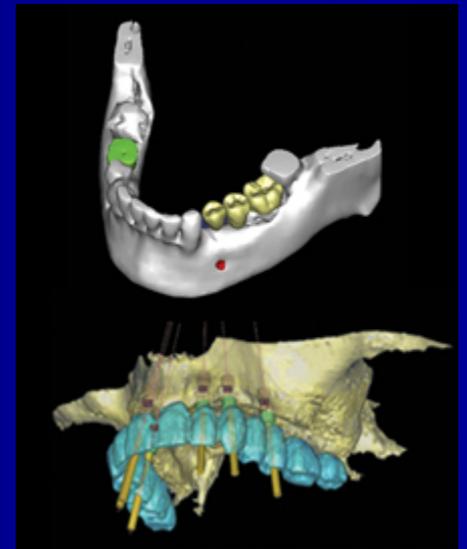
X. Adjournment

Motion by Goodman, seconded by Zapolski, to adjourn the meeting at 12:59 p.m. Motion Carried.



Dental CT

Access to Quality Health Care
while Containing Costs



CON regulations

- Principles of the CON commission
 - Improve access to quality health care, while
 - Containing cost
 - EXEMPTION OF THE DENTAL CT FROM CON
- ACCOMPLISHES EXACTLY THAT GOAL !!

Quality, Access, Cost

- Quality: Decreased Radiation to the patient by exposing them to less radiation in a 3-D form
- Access: Removing barriers lowers patient costs
- Cost: Medical CT much more expensive than Dental CT machine

QUALITY

- Radiologic Diagnostic Techniques in Dentistry are Specific to each Dental Discipline/Specialty
- 4 methods utilized for Dental Diagnosis
- Intraoral X-ray, Panoramic X-ray, Cephalometric X-ray, Dental CT
- Dental CT is for 3-D diagnosis
- Dentists are trained to be their own radiologists.

Dental Radiology

- Goal of dental imaging is to portray the anatomic truth: to visualize anatomy and pathology as it truly exists
- Radiology has advanced over the decades, but dental radiology has largely been limited to two dimensions
- Dental CT enables dentists to obtain three dimensional data
- This allows limitation of risk beyond the level allowed with conventional 2-D imaging systems for certain dental procedures

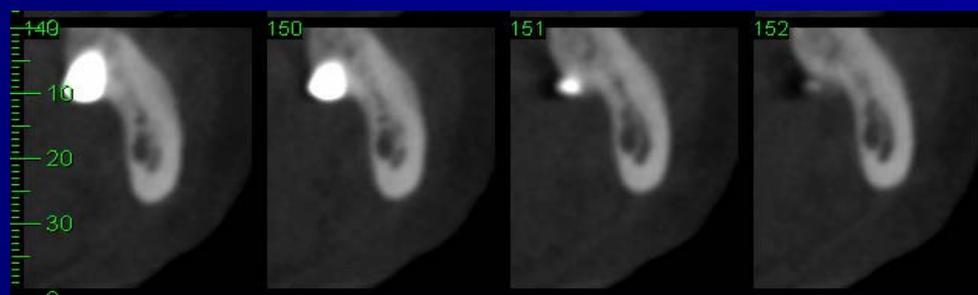
Dental CT and Implants

- Three dimensional views improve ability to assess architecture and consistency of alveolar processes
- Contour of alveolar process can be determined in the buccal-lingual dimension, reducing risk of perforating the cortex

Dental CT scan before
implant planning



Implants placed without
dental CT: perforation



Dental CT and Implants

- Dental CT permits more accurate measurements to avoid impinging on the mandibular nerve and the maxillary sinus
- Planning for bone graft or sinus lift procedures facilitated with dental CT
- Surgical guides and treatment plans can be generated based on 3-D scan data from dental CT and produce improved outcomes

Patel N. J Amer Dent Assoc 2010;141 Suppl2:20S-4S.

Neugebauer J. Int J Oral Maxillofac Implants 2010;25:258-65.

Parnia F et al. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2010;109:e32-6.

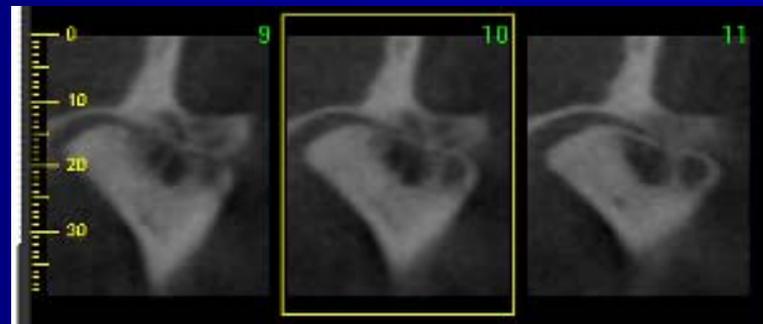
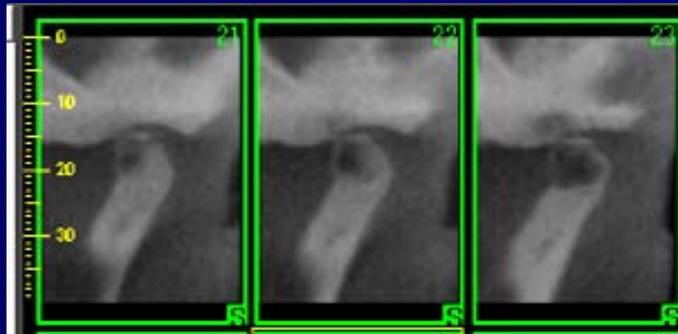
Suomalainen A. Dentomaxillofac Radiol 2008;37:10-7.

Dental CT and Implants

- Dental CT greatly reduces risk of implant failure
- Dentists providing implant treatment increasingly request dental CT
- UDM Imaging Center has had over 300% increase in outside referrals for implant site assessment between 2006 - 2007 and 2009 - 2010

Dental CT and TMJ Diseases

- Dental CT provides non-distorted views of the bony components of the TMJ with superior resolution compared to medical CT



Alkhader M et al. Dentomaxillofac Radiol 2010;39:343-8.

Alexiou K et al. Dentomaxillofac Radiol 2009;38:141-7.

Honey OB et al. Am J Orthod Dentofacial Orthop 2007;132:429-38.

Honda K et al. Dentomaxillofac Radiol 2006;35:152-7.

Dental CT and Oral Surgery

- Dental CT reveals relation of third molars to neurovascular bundle and maxillary sinus walls, facilitating favorable outcomes in extraction
- Dental CT improves outcomes in fracture reduction
- Dental CT is helpful in planning for and analyzing outcomes of bilateral sagittal split osteotomies

Suomalainen A et al. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2010;109:276-84.

Plooij JM et al. Int J Oral Maxillofac Surg 2009;38:1244-9.

Alkhader M et al. Dentomaxillofac Radiol 2010;39:343-8.

White SC. Health Phys 2008;95:628-37.

Other Applications of Dental CT

- Diagnosis of dental conditions such as vertically fractured tooth roots, which are otherwise almost impossible to detect
- Root resorption, transpositions and developmental dental abnormalities
- Accurate positioning and favorable outcomes in guided tissue regeneration membranes

Orentlicher G et al. J Oral Maxillofac Surg 2010;68:1933-59.

Takane M. J Oral Sci 2010;52:63-9.

Quereshy FA et al. J Oral Maxillofac Surg 2008;66:791-6.

Is Dental CT Really Needed?

- Can this diagnostic information be provided by conventional dental radiography?
- Some of it can be
- However:
 - Dental CT improves diagnosis and reduces risk of adverse outcome
 - Patients deserve the best diagnostic technology to help ensure success

Is Dental CT Really Needed?

- Some of this information can be provided by medical CT
- However:
 - Medical CT comes at much greater cost to the patient, and therefore to the insurer
 - The radiation dose is much higher with medical CT than dental CT
 - Medical CT procedures are rendered by non-dentists, who may not be familiar with the significance of the information

Dental CT: Lower Cost than CT

- Costs to patients/payers for examination of head:
 - Medical CT: \$384 - \$1,867 Average: \$1,132
Source: Michigan Health & Hospital Association (www.mihospitalinform.org)
Average of 27 hospitals in tri-county area Medicare outpatient fees for CT without contrast, 2008 - 2009
 - Medical CT Jaw and Face: \$522 - \$622
Source: www.spectrum-health.org
 - Dental CT: \$125 - \$450
Source: Personal communication
- Costs to providers (equipment):
 - Medical CT \$380,000 - \$2,639,693 Average: \$1,239,800
 - Dental CT \$44,000 - \$199,067 Average: \$135,795
Source: Letters of Intent for CON

Dental CT: Lower Radiation Exposure than CT

- Effective dose:
 - Conventional CT scan of maxilla and mandible: 2100 μSv
 - Conventional CT scan of maxilla alone: 1400 μSv
 - CT Dental Scan: 534 – 860 μSv
 - NewTom:
 - Model 3G 12" FOV: 44 μSv
 - Model 9000 9" FOV: 37 μSv

Dental CT: Lower Radiation Exposure than CT

- Effective dose:
 - i-CAT:
 - 12" FOV: 87 μ Sv
 - 9" FOV: 74 μ Sv
 - NewTom:
 - 12" FOV: 68 μ Sv
 - 3D Accuitomo
 - 3 x 4 cm FOV: 50 μ Sv
 - Mercuray:
 - 9" FOV: 560 μ Sv
 - 6" FOV: 407 μ Sv

Dental CT: Comparison with Other Doses

- Effective dose:
 - Panoramic: 14.2 – 24.3 μSv
 - Full-mouth series: 34.5 μSv – 388 μSv
 - Cephalometrics: 5.1 μSv – 5.6 μSv
 - Daily natural background radiation: 8 μSv
- CBCT results in slightly higher doses than other dental radiographs, but much lower doses than CT

Ludlow JB et al. JADA 2008;139:1237-43.
Carrafiello G et al. Radiol Med 2010;115:600-11.

Should Dental CT require CON?

- "Supply generates demand"
- CON concerned with an oversupply of imaging devices, leading to increased "demand" manufactured by owners of technology
 - This is probably true for CT, MRI, etc.

Should Dental CT require CON?

- But dental CT is NOT the same as CT
 - Different indications
 - Different patients
 - Different providers
- Dental CT does not duplicate conventional CT, but provides an alternative to it that is favorable for dental patients

Should Dental CT require CON?

- Dental CT is rapidly becoming the standard of care widely used for diagnosis and treatment planning of specific dental procedures.
- Guidelines on indications for dental CT have been issued by the European Academy of Dental Maxillofacial Radiology, and an opinion statement on the use of this technology has been published by the American Academy of Oral and Maxillofacial Radiology

Should Dental CT require CON?

- Increased use of dental CT fulfills a need for improved diagnosis, treatment planning, risk assessment and treatment

Should Dental CT require CON?

- For patients who need it, dental CT provides better diagnostic information at a lower cost, with less radiation exposure, provided by dentists for dentists and their patients
- Not more of the same, but something different whose time has come

REGULATION

- Need to be cautious when regulating new technology to ensure that the regulation is not inhibiting the advancement of patient care.

REGULATION

- Dental Radiation Machines have always come under Radiation Control Part 135 of the Act
- Dental CT is regulated by the Radiation Safety Section of the Michigan Department of Community Health, Bureau of Health Systems

Current CON Standards PROPOSAL

- The dentist operating the Dental CT scanner has been appropriately trained or certified by one of the following groups, as recognized by the Department: A dental radiologist in a certified dental school, an appropriate professional society, or a dental continuing education program accredited by the American Dental Association.
- The examinations generated by the proposed dental CT scanner will be interpreted by a licensed Dentist (s) trained and or certified by one of the following groups, as recognized by the Department: a dental radiological program in a certified dental school, an appropriate professional society, or a dental continuing education program accredited by the American Dental Association.
- Volumetric would NOT be a good way to regulate the Dental CT Scanner because of the specificity , it could promote overutilization.

PROPOSAL

- Exempt Dental CT from Certificate of Need for CT Scanners similar to newly adopted exemption in Connecticut, 49th state to exempt
- The Dental CT is to be used exclusively by a licensed Dentist.
- Deliver Specific Quality Dental Diagnosis in the Dental office under the Regulation of the Radiology Act
- Continue to regulate Dental CT under Part 135 of the Public Health Code, Radiation Control.
- Add requirements for training of the dentist from the CON Standards to the Ionizing Radiation Rules
- A training standard that is also in Administrative rules of the Michigan Board of Dentistry

Reliability Principle

- Dental CT increases quality and safety to the patient by delivering less radiation with less cost. Exemption of the Dental CT from the CON will allow dental patients to obtain diagnosis in a dental facility with dental specific software and training without traveling to a medical facility where the cost is so much higher and the necessary software is not often available.

MORE GOOD THAN HARM

GRATITUDE

THANK YOU FOR YOUR TIME
TODAY