

Application of Synchronous Modality to Establish a Dental Home for Underserved Rural Children



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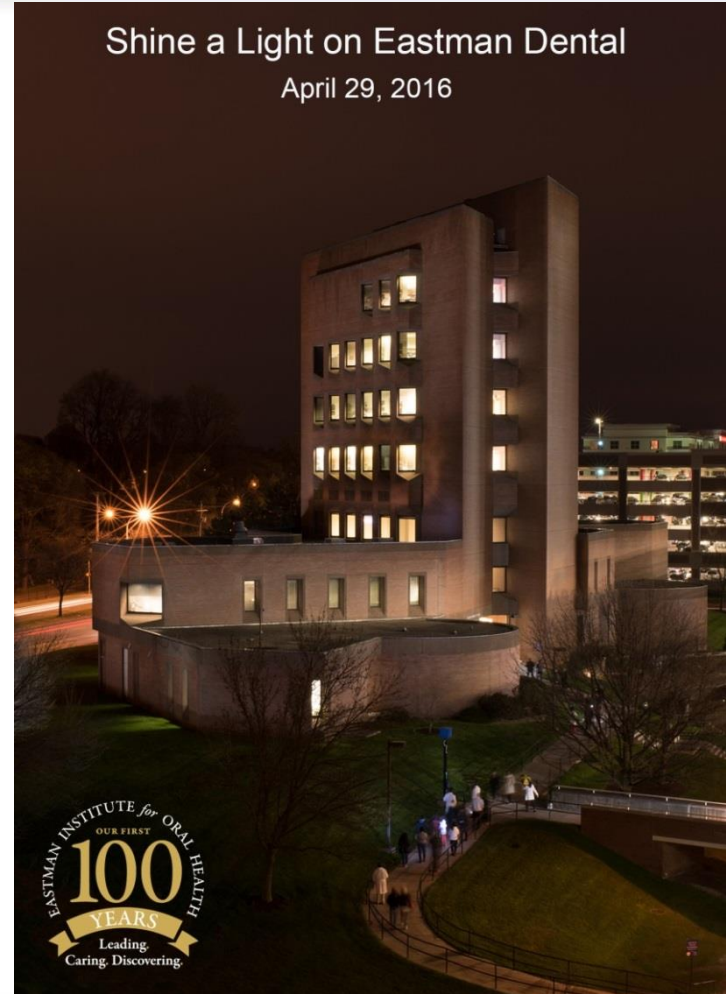
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Shine a Light on Eastman Dental
Pre-Lighting



Shine a Light on Eastman Dental
April 29, 2016



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Eastman Institute for Oral Health

Division of Pediatric Dentistry

- 14 GME funded residents
- ~21,000 patient visits a year in resident clinic
- ~6,000 outreach visits
- 5 Full time faculty
- 2 .6 FTE's and 5 other part time faculty
- Serve as a safety net provider for large part of New York State



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New York State Pediatric Dentistry Residency Programs:

1 Buffalo
1 Rochester



18 New York City
Metropolitan Area



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Synchronous Teledentistry Modality at EIOH

- Teledentistry collaboration between FLCH and EIOH initiated and started in April 2010
- A telepresenter and patient are at a remote site and pediatric dentist is at EIOH

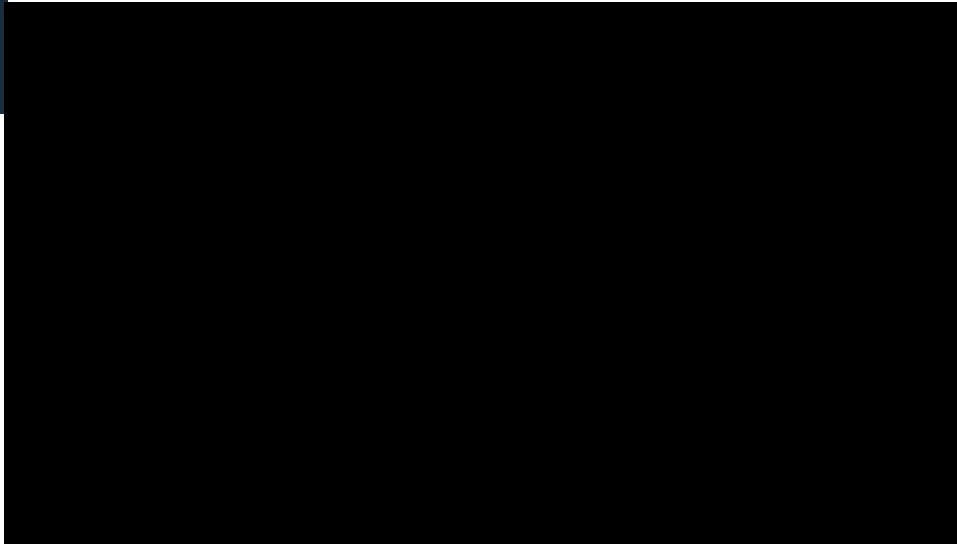


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WXXI – Need To Know Segment



https://www.youtube.com/watch?v=ozO6lvgO_YI



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Original Videoconferencing Equipment

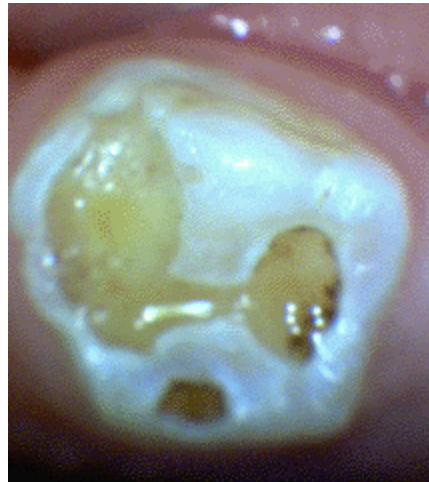


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Intraoral Images



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Synchronous Teledentistry



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Synchronous Teledentistry



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A Relaxed Atmosphere.....



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Treatment completion for complex dental cases

- An internal chart review of children seen through the mobile dental van program from 2003-2011 was completed by FLCH (n=158).
- A 15% treatment completion rate was observed for children referred for complex dental treatment.



Synchronous Teledentistry Visits

- A live-video teleconference appointment is set up when a child has been identified as having extensive dental needs by general dentists at FLCH.
- The live-video teleconference modality (synchronous teledentistry) is used rather than a store and forward modality (asynchronous teledentistry) because the pediatric dentist is also trying to assess patient behavior.



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Synchronous Teledentistry Visits

- On day of appointment a live-video connection is established between remote site and EIOH (written consent obtained prior to live-video conferencing).
- Patient and family are introduced to pediatric dentist through webcam.
- Medical history is reviewed with parents.



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Synchronous Teledentistry Visits

- All questions/concerns addressed by pediatric dentist to parents.
- Live-video feed switched from webcam to intraoral camera and oral exam begins.
- Telepresenter manipulates intraoral camera at request of pediatric dentist.



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Synchronous Teledentistry Visits

- Live-video feed switched back to webcam.
- Observations discussed with parents.
- Treatment modalities discussed with parents.
- Treatment modalities: in-office treatment, treatment with nitrous oxide, treatment with oral sedation, treatment in operating room, treatment consultation.



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Setting up an appointment for dental care

- Appointment set up for treatment at EIOH (joint effort with patient's guardians, FLCH community health worker and EIOH staff)
- Community health workers aid patients/their families with appointment attendance, H and P appointments if needed, transportation, and follow-up.



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Review of the Program

- RSRB approval from University of Rochester obtained for retrospective chart review.
- Retrospective chart review completed for 251 patients seen in the synchronous teledentistry program from 4/2010-12/2013.



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Patients Age

Number of Subjects	Mean age in years	Median age in age	Standard deviation	Min age	Max age	95%LCI	95%UCI
251	4.77	4.00	2.36	1.00	19.00	4.48	5.06

More than 70% of the children were 5 years of age or younger



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Distribution of Treatment Modalities and Treatment Completion

Dental treatment recommended	Number of children with that recommendation	Number of children who completed recommended treatment	Number of children who completed some of the recommended treatment	Number of children who did not complete recommended treatment	Percentage of children who completed the recommended treatment
Office tx in EIOH	4	4	0	0	100
Tx with nitrous oxide sedation	110	62	19	48	56
Tx with oral sedation	15	13	0	2	87
Tx in the OR	112	104	0	8	93
Consultation	10	9	0	1	90

The compliance rates for all treatment modalities were not significantly different (Fisher's exact test, $p > 0.05$).



Results of the Review

- Results show that 93% of children initially identified for treatment in operating room completed their treatment.
- 87% completion rate for children initially identified for treatment using oral sedation.
- 56% completion rate for children requiring N2O/O2, however 19 of the remaining 48 patients completed some of the treatment recommended



Results of the Review

- The high completion rates observed for children requiring operating room services may be attributed to all treatment being completed in 1 trip to Rochester.
- Treatment modalities (N2O/O2) requiring multiple trips to Rochester resulted in decreased completion rates.



Logistical considerations and challenges

- Dissimilarities and conflicts in state and federal laws
- Limited reimbursement, logistical encounters, and concerns about data quality and security
- Differences in payment and coverage for teledentistry services in the public and private sector, as well as different policies across states



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State policies

- States have enacted various policies related to Medicaid and in several cases, private payers
- State policy typically determines what constitutes telehealth, including teledentistry; the types of technologies, services and providers that are eligible for reimbursement; where teledentistry is covered and how.



State policies cont.

- With technology's ability to cross state borders, provider licensure transferability is a key issue that states are examining to expand access and improve efficiency in the existing workforce
- Ensuring safe teledentistry encounters for patients and privacy and data security has become an increasingly important issue as teledentistry has grown



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Potential solutions???

- With the establishment of a well-adjusted and thoughtful framework for the practice, use, and reimbursement of teledentistry in a mainstream clinical dentistry operation, patients, dental providers, and oral health care systems will be able to realize the full potential of teledentistry.



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Future Plans

- To demonstrate that Teledentistry examinations for oral disease are a feasible alternative to oral examinations of small children and have the potential to be especially useful in rural areas where access to care may be difficult or unavailable.
- To promote Teledentistry in day care centers and in primary and secondary schools.
- To assess the cost-effectiveness of Teledentistry as an alternative to oral health examinations of school children in public health surveys at the federal (NHANES), state (NYSOHS) and local level (MCOHS).
- To explore the potential utility of Teledentistry for rural community dwelling older adults who may lack access to oral health care, as well as home bound adults and adults in long-term care facilities.



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Questions



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Thank you



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