

2012 Webinar Series



Telehealth Technology Assessment Center

Intraoral Camera Technology Exploration



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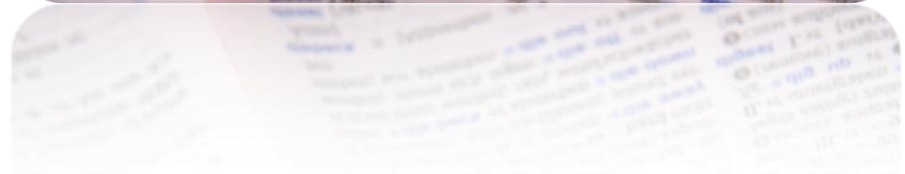
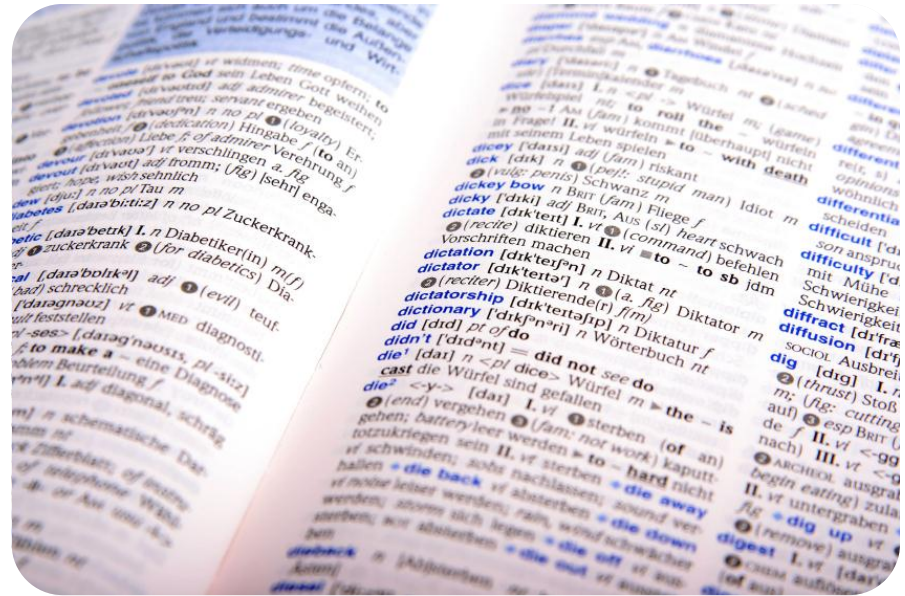
Overview

- ▶ About
- ▶ Features
- ▶ Uses
- ▶ Market Review
- ▶ Technology Deployment



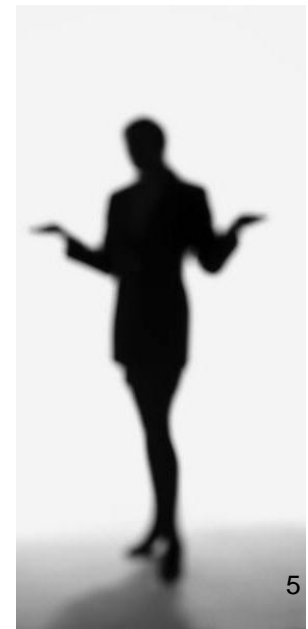
What is it called...

- ▶ Intraoral Camera
- ▶ Intra-oral Camera
- ▶ Dental Camera



What does it look like...

- ▶ It is a specialized camera with a light source incorporated into the design
- ▶ Generally wand shaped for ease of use and instrumentation familiarization for dental health professionals



Methods of Use in Telehealth...

- ▶ Live via videoconferencing
- ▶ Frozen images via videoconferencing
- ▶ Still captured images transmitted

Features Explained...

- ▶ Focus
- ▶ Image Sensor
- ▶ Image Resolution
- ▶ Field of View
- ▶ Image storage
- ▶ Image orientation
- ▶ Zoom
- ▶ Freeze
- ▶ Anti Fog
- ▶ Light Source
- ▶ Connections
- ▶ Hygienic Sheath
- ▶ Physical Attributes
- ▶ Interfaces
- ▶ Security



Focus

- ▶ Auto Focus
 - Based on fixed focal length
- ▶ Manual Focus
 - Dial
 - Buttons
 - Manual camera head movements



Image Sensor

- ▶ CCD – Charge Coupled Device
- ▶ CMOS – Complementary metal oxide semiconductor

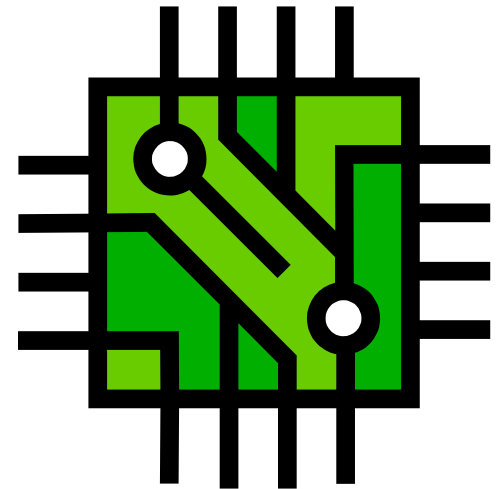


Image Resolution

- ▶ Stated
- ▶ Effective Pixels

Height	Width	Pixels	Megapixels
640	480	307,200	0.3
1280	960	1,228,800	1.3
2048	1536	3,145,728	3.1

Field of View

- ▶ Described as Angle of view in technical specifications

Image Storage

- ▶ Local storage
 - Onboard, may have storage limit
 - Needs mechanism to transfer stored images
- ▶ Images transmitted
 - Wired or wireless transmission
- ▶ Format of stored images
 - Compatibility with associated systems

Image Orientation

- ▶ Mirror
- ▶ Regular



Zoom

- ▶ Digital process with fixed lens
- ▶ Buttons located on the device
- ▶ May be controlled by software



Freeze

- ▶ Used during live video interaction
- ▶ Freezes a single frame of live video
- ▶ May be controlled by accompanying software
- ▶ Intraoral cameras may have the ability to store frozen images



Anti Fog

- ▶ Camera head is nearer to body temperature, so fog doesn't form
- ▶ Anti-fog coating on lens helps to prevent fog from building up



Light Source

▶ LED

- Number equals level of brightness
- White light
- Constant amount of light

▶ Fiber Optic

- Light emits from corded light source
- Amount of light possibly adjustable

Connections

- ▶ Wired
 - USB
 - Fiber optic Cable
- ▶ Wireless



Hygienic Sheath

- ▶ Additional supply required
- ▶ CDC recommended to prevent infection and cross contamination
- ▶ May be specifically designed for the camera body
- ▶ Proper application essential
 - Generally optical grade plastic over lens area

Physical Attributes

- ▶ Weight
- ▶ Camera body shape & size
- ▶ Feel in the hand
 - Wired or wireless
- ▶ Ease of use
 - Focusing
 - Zooming
 - Button use
 - Hygienic sheath application
 - Image capture



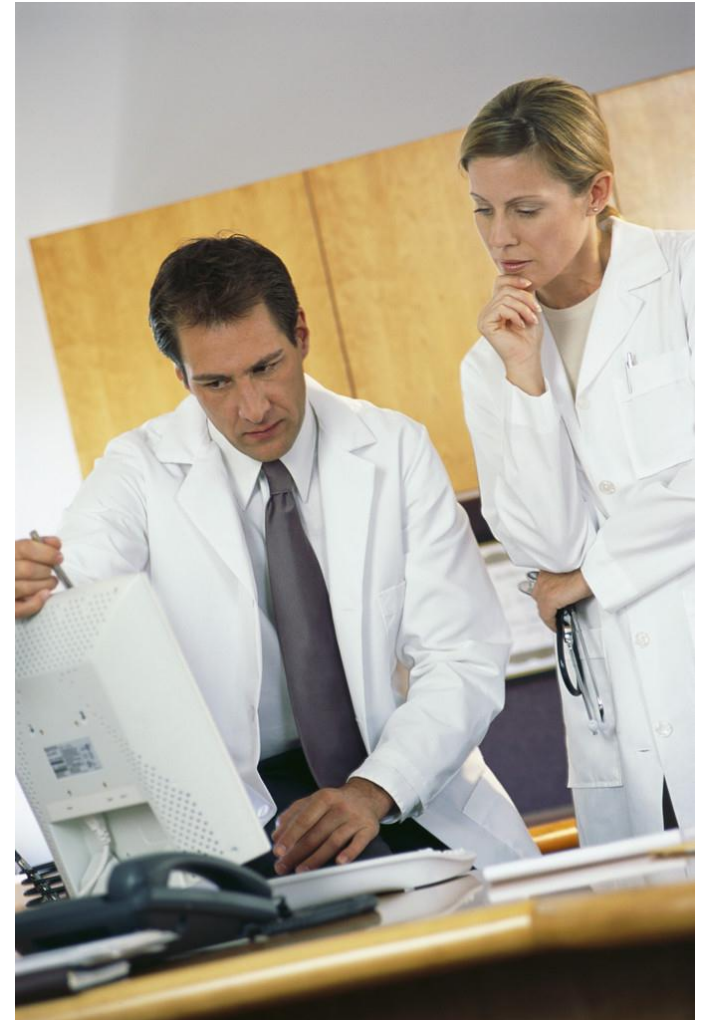
Interfaces

- ▶ Hardware
 - Computer
 - VTC



Interfaces Continued...

- ▶ Software
 - Required for operation
 - Optional
 - Optional with installed drivers



Security

- ▶ Image storage
- ▶ Image encryption
- ▶ Image transfer concerns
- ▶ HIPAA



How does this apply...



Uses in Telehealth

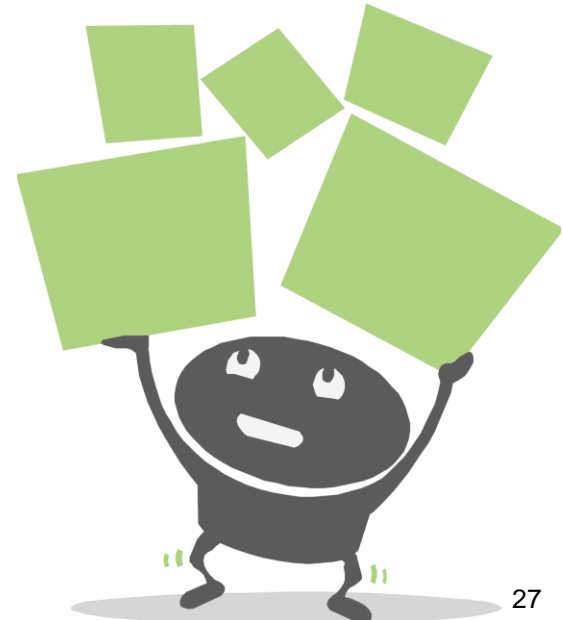
- ▶ Dental Screenings
- ▶ Store and forward examinations
- ▶ Some Non-traditional dentistry locations
 - Schools
 - Nursing homes
 - Special populations
 - Underserved populations
 - Remote locations
 - Public health locations
- ▶ Non-traditional uses ...

Related Standards & Resources

- ▶ Centers for Disease Control and Prevention (CDC) [Guidelines for Infection Control in Dental Health–Care Settings.](#) (2003)
- ▶ [American Dental Association \(ADA\) Professional Product Review](#)
- ▶ Ability to utilize equipment is based on scope of practice determined by state
- ▶ [ADA position statement on IOM report](#) (July 13, 2011)
- ▶ IOM report, [“Improving Access to Oral Health Care for Vulnerable and Underserved Populations”](#) (July, 2011)
- ▶ ADA [“Future of Dentistry Executive Summary”](#) (2002)

2012 TTAC Market Review

- ▶ Approaching 30 resellers and manufacturers currently on the market
- ▶ Approximately 48 models on the market
 - Additional legacy models available as well
- ▶ Average price point \$1200 – \$3000



Acteon Inc. | www.acteongroup.com

Air Techniques | www.airtechniques.com 516-433-7676

Ashtel Dental | www.ashteldental.com 866-274-8351

Biolase Technology, Inc. | www.biolase.com 888-424-6527

Camsight Co. Inc. | www.camsight.com
info@camsight.com

Carestream Dental | www.carestreamdental.com 800-944-6365

Cefla Dental Group America | www.myrayamerica.com
800-416-3078

Cieos Inc. | www.cieos.com/en 973-703-4437

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Dexix LLC | www.dexis.com 888-883-3947

Digital Doc LLC | www.digi-doc.com 800.518.1102

Gendex Dental Systems | www.gendex.com 800-323-8029

Imagin Systems Corporation |
www.imaginsystems.com 888-478-4624

Interguide | www.interguidedental.com 866-697-7744

Owandy USA | www.owandyusa.com 877-828-2986

Progeny Dental | www.progenydental.com (877) 544-9672 – A Midmark Company

RF America IDS | www.rfamerica.org 866-578-5533

RF Co. Ltd. | www.rfamerica.com 800-605-1688

RF System Lab | www.rfsystemlab.nl/ +31-(0)36-5363663

Rolence Enterprise Inc | www.rolence.com.tw 886-3-463-1999 Tiwan

Schick Technologies | www.schicktech.com (718) 937-5765

Sharper Practice Inc | www.sharperpractice.com 800-392-1171

Sirona Dental Systems LLC | www.sirona.com 800-659-5977

Soredex Inc. | www.soredex.com 800-558-6120

Sota Imaging | www.sotaimaging.com 888-266-7682

SUNI Medical Imaging Inc | www.suni.com 866-757-0197

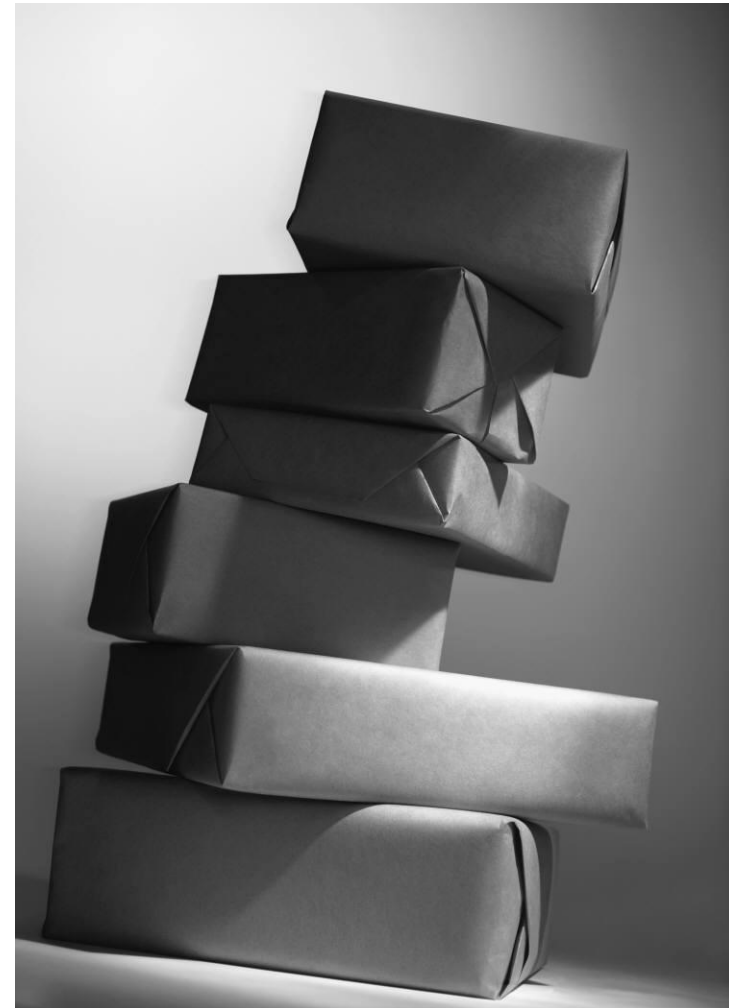
Video Dental Concepts Inc | www.videodental.com
800-323-2690



Intraoral Camera Companies

People. Perceptions. Processes.

- ▶ **Deploy and Support**
 - Device Staging
 - Configurations
 - Spares
 - Warranties
 - Customer Support
 - Troubleshooting
 - Training
 - Replacing Equipment



Thank You



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For additional information, please visit our website at www.TelehealthTAC.org or email info@TelehealthTAC.org

Additional resources for telehealth program development can be found at www.telehealthresourcecenters.org

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