Types of dermoscopes and dermoscopy image storage software

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TOPICS

• History of dermoscopy
• Portable Analog Dermatoscope
• Digital Dermatoscope
• Storage of dermatoscopic images.
History of dermoscopy
HISTORY OF DERMOSCOPY

- Synonym(s): Dermoscopy and surface microscopy

- 1663: Christophorus Kolhaus used a microscope to visualize small vases in the nail bed.

- 1879: Hueter used a microscope to visualize small vases in the lip.

- 1920: Saphier made the first detailed description of possible application of surface microspopy and used the name dermatoscopy.

- 1920: The dermatologist Michael used in USA dermatoscopy.
HISTORY OF DERMOSCOPY

- 1950: Goldman perfected a surface microscopy and described its application in dermatoses and cutaneous tumors.

- 1971: Rona Mackie identified advantages of the use in the differentiation of benign and malignant pigmented lesions.

- 1989: In Hamburg, Germany, the first conference on cutaneous surface microscopy took place.

- 2001: In Italy, the Consensus Netmeeting on Dermoscopy took place.
DERMATOSCOPY

- It is used to evaluate aspects non accessible with naked eye.
- Increase sensitivity for skin diseases and auxiliate to indicate biopsy of the lesions.
- It is a non invasive diagnostic technique with accuracy of 90%.
- The dermatoscopy images can be recorded and immediately scrutinized on the screen of a mobile phone, camera or computer.
- Images may be transmitted worldwide in a teledermatoscopical setting.
Portable analog dermoscope
PORTABLE ANALOG DERMATOSCOPE

• Principle of operation: Incidence of light on the skin associated with a magnifying glass 0-10 times.

• Light
  - Halogen: It creates light reflex and is necessary immersion contact to avoid light reflection.
  - Polarized: It does not need immersion contact, because there is a filter that absorbs reflected light.

• Coupling to digital cameras, smartphones or computers.
# PORTABLE ANALOG DERMATOSCOPE

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PORTABLE ANALOG DERMATOSCOPE

Dermatoscopia Derma 20 II

Aumento de 20 vezes o tamanho da imagem.
Lentes de alta resolução tratadas com processo anti-reflexo.
Iluminação por led’s de luz branca / Vida útil de 100 mil horas.
Alimentação: 2 pilhas de 12 volts / Acompanha + 2 reservas.
Permite uso de adaptador para acoplar máquina fotográfica digital(opcional)
Garantia de 05 anos contra defeitos de fabricação.
Assistência técnica permanente.
Digital dermatoscope
DIGITAL DERMOSCOPE

• Digital dermatoscopy: Help to get early diagnosis of melanomas that are not characteristic, that is, they do not yet have typical characteristics that allow their diagnosis in an isolated examination of dermatoscopy.
• The approach is different from that performed in analogue dermatoscopy.
• Comparison of the standard dermoscopy present in the group of dermatoscopic images of the patient's nevi.
• Temporary follow-up of suspicious lesions.
• Temporal follow-up of each lesion--> Increases accuracy. Follow-up every 3-12 months.
DIGITAL DERMOSCOPE

- It can be realized in compact devices, videodermatoscopes or coupled to professional digital cameras.
  - Compact devices are more practical, but lower quality.
  - Videodermatoscopes or coupled to professional digital cameras: More work, but with better quality.
DIGITAL DERMOSCOPE

• Mapping of nevi: association of digital dermatoscopy and body photography.
• Indication: Patients at higher risk of developing melanoma.
• Family history of melanoma.
• Previous history of melanoma.
• Multiple nevi
• Atypical nevi
• Light Skin
• Appearance of ephelides.
PORTABLE DIGITAL DERMOSCOPE

• Coupling-> Portable digital dermatoscope:
  - FotoFinder Handyscope®: Customized dermatoscope to be coupled to the iPhone or iPod smartphone.
  -- Images up to 20x magnification
  -- Sophisticated optical system with twinlight mode for polarization and immersion.
  -- Dermoscopy with and without contact with the lesion
  -- Requires application to generate and store images.
  -- Compatible with the FotoFinder® handyscope 2 application, iDoc24® application and DermatologiaWeb web application, among others.
PORTABLE DIGITAL DERMOSCOPE

- Coupling-> Portable digital dermatoscope: FotoFinder Handyscope®.

- handyscope for iPhone 6s
- handyscope for iPhone 6
- handyscope for iPod touch
- accessories kit
PORTABLE DIGITAL DERMOSCOPE

• Coupling-> Portable digital dermatoscope:
  -Compatible with any smartphone.
PORTABLE DIGITAL DERMOSCOPE

• Coupling-> Portable digital dermatoscope:

Figure 1: Jeweler’s loupe attached to a HTC desire HD mobile phone with cello-tape and visualization of a melanocytic nevus with the loupe.

Figure 2: Melanocytic nevus over the finger (a) viewed with a jeweler’s loupe attached to a smartphone (b) and with a standard dermoscope-DERMLITE pro HRII attached to a Sony DSC W-380 camera (c).
PORTABLE DIGITAL DERMOSCOPE

- Portable digital dermatoscope: without external lens: "tape dermoscopy".

*Figure 1. Schematic drawing demonstrating the “tape dermoscopy” technique: (1) covering the lesion with immersion fluid (e.g., water, olive oil or disinfectant spray), (2) applying transparent adhesive tape over the lesion with lateral tension, (3) using ambient indoor or outdoor light for illumination, (4) approaching the lesion with the recording device at an angle of approximately 45° to avoid light reflection from the tape, and (5) recording a sharp image with a mobile phone or digital camera (with good macro capability) at a distance of approximately 20 to 30 cm. [Copyright: ©2015 Blum et al.]
PORTABLE DIGITAL DERMOSCOPE

- Portable digital dermatoscope: without external lens: "tape dermoscopy".

Figure 6. (A) Clinical image of invasive squamous cell carcinoma on the left zygomatic area. (B) "Tape dermatoscopy" image taken with a mobile phone after the lesion was covered with immersion fluid and a tensioned transparent adhesive tape. (C) Enlarged image of Figure 6b. (D) Normal non-polarized dermatoscopic image taken with a Fotofinder handyscope. [Copyright: ©2015 Blum et al.]
VIDEODERMATOSCOPE

- Synonym: Videodermatoscope or computerized dermoscopy.
- Increase: 20 to 160 times.
- Used for the tricoscopy in the diagnosis of hair and scalp diseases.
- The tricoscopy is a new method of analyzing the hairs based on the Videodermatoscope of hair and scalp.
VIDEODERMATOSCOPE
VIDEODERMATOSCOPE

CARACTERÍSTICAS DO AM7515MZT
- Aumento de 20x ~ 220x
- Interface USB
- Microtouch
- Câmera de 5 Megapixels
- 8 LEDs
- Luz polarizada
- Reconhecimento de Ampliação Automática
- Facilidade de operação
- Fotografa a lesão ser analisada
- Corpo de alumínio
- Análise de pele e couro cabeludo
- Adaptadores frontais removíveis e intercambiáveis

Construa um histórico de imagens para acompanhamento a cada consulta.

O modelo AM7515MZT permite ao profissional de dermatologia comprovar edemas, alterações de cor, clareamento ou aparecimento de novas lesões.

Dino-Lite
Um novo conceito em Microscopia
Vídeo Dermatoscópio M17 - NitroSpray

O Vídeo Dermatoscópio M17 - NitroSpray, possui a câmera de mais alta resolução do mercado atual, com 9.0 MP de resolução.

Descrição:
HK OITEZ 9.0MP 200X Microscópio Digital USB endoscópio Magnifier câmera com 8 LED & Filtre Microscópio & amp; Medição Escopo Microscópio
Dermatologia: pele / couro cabeludo.
DP- M17 com funções de medição.
Medindo microscopia Especificações:
Sensor de Imagem: 9.0Mega Pixels
Resolução de vídeo: 800x600,
Formato de vídeo: AVI
Resolução da imagem: 3488X2616, 2560X1920, 2048X1536, 1280x960
Formatos de imagem: JPEG, BMP
Gama de focagem: manual 10 milímetros foco a 200mm
Frequência de luz: 50Hz / 60Hz
Taxa de quadros: 15 fps 800 * 600
Ampliação: 10 ~ 40X, 200X
Velocidade do obturador: 1 / 1000-1 segundos
Balanço de Branco: Auto
Exposição: Auto
Fonte de luz: branco x8 LED
Interface de Computador: USB 2.0
Fonte de luz botão de ajuste fino:
Idioma do menu: Multi-lingual
Poder de trabalho: DC 5V (porta USB fornecido)
Tamanho: 38mm (D) x142mm (L)
VIDEODERMATOSCOPE
PROFESSIONAL DIGITAL CAMARA CONNECTED TO DERMATOSCOPE
Storage of dermatoscopic images
STORAGE OF DERMATOSCOPIC IMAGES

• Devices like CD, DVD, memory card, USB Flash Drives and external HD

• Virtual storage (Clouds and sites)
STORAGE OF DERMATOSCOPIC IMAGES

- Virtual Storage
  - Schematic representation of data storage location, breadth and potential of web systems
STORAGE OF DERMATOSCOPIC IMAGES

- Virtual Storage (Clouds)

![Dropbox]

![OneDrive]
STORAGE OF DERMATOSCOPIC IMAGES

• Virtual storage (sites / web applications).

FotoFinder. The Hub, features and expert systems
STORAGE OF DERMATOSCOPIC IMAGES

• Virtual storage (sites / web applications).


THANK YOU!

DOUBTS?

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