



F15 Contribution of Photographic Techniques in Automated Dental Identification

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After attending this presentation, attendees will be able to understand the use of automated photographic techniques of mandibles and maxillas in mass disaster identification.

This presentation will impact the forensic science community by exploring a photographic technique that provides a reliable system for use in the field or laboratory. It is currently being tested within the Forensic Science Institute of the French Gendarmerie (I.R.C.G.N). The practical applications presented can be used as a guideline available to forensic odontologists.

Photography is an important element of dental forensic examination. It is often required by magistrates and investigators because pictures are able to show the mandibular and the maxillary teeth, their characteristics, their pathologies, and dental treatments.

Materials and methods: The digital SLR camera with a 60 mm lens is mounted on a stand equipped with a light source. This device is coupled to a laptop computer equipped with a distance shooting software package. A mouse is activated with the foot. This provides a means of capturing an image. The operator takes the photo hands-free and frames by visualizing on the screen.

Results: The testing environment enabled the identification of some key points.

Automation: On the camera the function, AF coupled with the function S treats the sharpness of the image. Thus, for each shot, the auto focus and sharpness is achieved without any manual intervention from the operator.

Handling: Holding the object to be photographed in their hands, the operator chooses easily the exact plane of the desired image.

Ergonomics: There is no need to use two operators, a clean hand operator and a dirty hand operator, or to continually change gloves between dirty and clean interventions. An operator can easily work alone.

Framing: Direct vision on the screen enables the observation of a greatly enlarged scale image. Details can be highlighted.

Speed: The reduced need for focusing decreases the time taken considerably.

Repeatability: The foot control of the camera permits the repeated shots with ease.

Cleanliness: The issue of the cleanliness of the collection of images and contamination of the photographic material is resolved because at no point does the operator touch the equipment.

Flexibility: The final results can be verified immediately on the screen and the ability to correct mistakes is possible – simply by acquiring another image.

Discussion: The use of photographic equipment and shooting a predetermined four orientations can establish a standardized photographic record.

Thus for each mandible and maxilla an occlusal view, buccal anterior view and two lateral views are taken. Photographs of specific details are made if necessary. A photographic record for each victim is always produced and it contains all the photographs of the case.

When producing a report, the photographs of the occlusal surfaces are preferably framed and each tooth is identified according to the classifications used in countries where the expertise is conducted (FDI nomenclature, Universal system; Army system...).

Other photographs (front view, left and right side views, and photographs of details) are subject to a layout on a specific page.

The entire photographic record illustrates the dental status of the victim. It will support the comparison, along with radiographs and antemortem records.

Conclusion: A question emerges from this presentation – if sound photographic records can be produced – is a pictorial odontogram required?

Odontology, Photographic Technique, Computer