

PHOTOGRAPHY -- FORENSIC DENTIST PERSPECTIVE

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ABSTRACT:

Photographs are created using a camera, which uses a lens to focus the scene’s visible wavelengths of light into a reproduction of what the human eye would see. The process of creating photograph is called photography. Forensic Photography referred to as forensic imaging or crime scene photography is an art of producing an accurate reproduction of crime scene or accident scene for the benefit of court.

KEYWORDS: Non-digital,positive film,panoramic.

INTRODUCTION

Non-digital photographs are produced with two step chemical process. In the two step process the film holds a negative image which is then transformed on to photographic paper as a positive image. Positive film other widely used film used for transperences, usually mounted in card board or plastic frames called slides. Slides are usually used by professionals due to their sharpeners and accuracy of color rendition. Most photographs published in magazines are taken on color transparency film.

Panoramic format images can be taken with special cameras, like hassellbad X pan on standard film. Since 1990’s, panoramic photos have been available on the advanced photo system (APS) film. It has got computerized options.

Crime Scene Photography Kit

- Camera (preferably analog SLR)
- Normal lens (a 50 mm lens) is considered a normal lens for 35 mm camera.
- Wide angle lens (28 mm or similar for 35 mm camera).
- Close up lenses or accessories (E.g. Macro lens 1:1 adapter extension takes, bellow reversing ring or close up filters).
- Filters (red orange yellow blue and green).
- Electronic flash.
- Remote sync cord for electronic flash.
- Extra camera and flask batteries.
- Locking cable release sturdy tripod..

- Film (color and black and white print film).
- Owner’s manuals for camera and flash.
- Pen and Note book.
- Scales.
- Index cards and felt pen, marker pen and
- Flash gum

Other Equipment:

- Telephoto lenses (135 mm, telephoto Zoom lens for surveillance photography).
- Supplementary light meter for low light level reading.
- Small camera repair tools

Forensic scientists use different light source rich as ultra violet and infra red, to visualize stains or finger prints on clothing. Under Non visible light many pigment and dyes absorb light energy but releases in different wave length or colors that normally helps forensic investigators find blood stain finger prints.

In medico legal field photography is required:-

- To record injuries either before treatment or autopsy or other facts of medico legal importance.
- In death of prisoners in jail or custodial death.
- Exhumation.
- When homicidal attack is suspected in admitter person.
- At autopsy, in suspected homicide death.
- At the site of accident or crime.

Digital Photography : Improvements in the technologic application of digital photography have made the use of digital camera for visible light documentation of soft tissue (Bite marks injuries feasible)

The digital camera captures the image on a charge coupled device (CCD) that can be transferred to a computer for processing and printing. One advantage of digital camera is that the computer can change the image to black and white, eliminating the step of taking separate black and white photographs, as a must be done with films ,use of imagining software can be applied to enhance the image in many ways. (DIMS {Digital image management system} linear system, Rancho Cucamonga, Ca) At this time it is recommended that photography with film the done and digital camera can be used as adjunctive photographic means. If properly done both the media capture detail images photographically, pressuring the bite mark injury i.e. Non visible light photography.

Ultra violet Photography: U.V. light is used to create an image of bite mark injury on film that cannot be seen with the unaided human eye because UV light dose not fall within in the spectrum of light seen by the eye.

Ultra violet light dose not penetrate appreciably the surface of the skin and reflect back to the film in the camera a highly detailed image of the surface of the skin can contain additional data about the teeth responsible for injury pattern, Ultra violet photography requires the use of special filters.

Infra red Photography: In contrast to UV light IR light dose penetrate the skin a few millimeters. Using special photographic techniques it is possible to create an image of bite mark injury as it appears bellow the surface of the skin. IR photography captures the bleeding patterns below the skin at the patterned injury site. IR photography requires the use of special light filter, infra red film and unfiltered lens

Epiluminescence: Epiluminescence microscopy is a dermatologist techniques developer for evolution of pigmented skin lesion, this techniques renders the statumcornem transphernent, can aid in the visualization and photographic documentation of bite marks. Pictures as evidence must be

- 1. Fit for court
- 2. A true record
- 3. Untempered

Legal requirement To record injuries legally conventioneer analog camera must be used:

- The negative can be exhibited in the court as proofs.
- No alternations or manipulations are possible in positions.
- Negatives voucher for authority of the positives
- However, in legal proceeding digital Photography is also getting acceptance.
- If the patient is an accused photographs can be taken even with out consent if legally required.
- For academic/ research publication purpose, no photograph should be taken with out consent.
- Consent should be always be written and informed, explaining the purposes for which the photographs might be used in future.
- Photographer should maintain confidentially. Due respect to the privacy of the patient should be given(when private parts are to photographed).
- If a patient is female and doctor is male, female attended must be present during examination.
- Photographs should be taken on plain back ground of contrast color.
- For medical photographs usually green back ground in prefer.
- Photographs should be taken broad daylight it is not possible then illumination should resemble broad day light.
- For proper mixing of lights of tubes and lamps are used.
- Ideally two photographs should be taken however more number of photographs from various angles portions etc it is always good.
- One from the distance to demonstrate location in relation to anatomic land mark.
- One close up high lighting details injury/ lesion.

After developing the photographs should be sequentially numbered and stamped or the doctor signature should be put on the back side of photograph. Photograph along with negative should be handed over to the investigating office .

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