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Forensic Odontology in Missing Persons Cases

Forensic odontology has been concerned historically with identification of unknown human remains. Unfortunately, many times this work, which requires accurately gathering and evaluating all available information, is conducted under the pressures of urgency. Such pressure may be avoided by early cooperation between the missing persons investigator and a forensic odontologist to provide an accurate dental antemortem record available for immediate use as a source of suitable information for police circulars. Through the use of a professionally developed forensic dental interview of all individuals familiar with a missing person, a trained police investigator can assemble much of the lay information available. The forensic dental interview presented has been used in this manner.

FORENSIC DENTAL INTERVIEW

AGENCY: _____ CASE NUMBER: _____
PURPOSE OF INTERVIEW: _____
NAME OF INDIVIDUAL: _____
DOB: _____ SEX: _____
Officer conducting interview: _____
Date of interview: _____
Individual being interviewed: _____
Address: _____
Phone: _____
1. Name of family dentist: _____
Address: _____
Phone: _____
2. Last known date of dental care: _____
3. Other dentists known to have provided care: _____
Name: _____
Address: _____
Name: _____
Address: _____
4. How long has individual lived here? _____

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5. Do you recall treatment for any of these items?
 - a. Toothaches:
 - b. Broken teeth or dentures:
 - c. Wisdom teeth removed:
 - d. Dental infections:
 - e. Broken jaws:
 - f. Straightening of teeth:
6. Where did individual grow up?
7. Name of dentist who provided care during missing person's childhood:
Address:
8. Was individual ever covered by dental insurance or company-union dental care plan?
9. Was individual ever treated by or in government service (military, V.A., Peace Corps) or apply for military academy?
10. Has individual ever been institutionalized (prison, mental hospital, detention for drug or alcohol use)?
11. Was individual ever victim of an accident or fall where head or mouth injury was suspected? If so, where was treatment provided?
12. Are there any photographs available showing teeth or mouth?
13. Do you recall any of these items?
 - a. Fillings:
 - b. Missing teeth:
 - c. Badly decayed teeth:
 - d. Crooked teeth:
 - e. Malformed teeth:
 - f. Broken teeth:
 - g. False teeth:
 - h. Wires around teeth:
 - i. Discolored or darkened teeth:
 - j. Color of teeth:
 - k. Shape of face:
 1. Protruding jaw:
 2. Receding jaw:
 - l. Gold in teeth:
 - m. Loose teeth:
 - n. Bad gums or a lot of roots showing:

Discussion

The forensic dental interview gathers both obvious and less obvious information supporting and adding to information compiled from professional dental records. The interview questions are specific because the investigator is not expected to be familiar with dental implications of available information. All individuals reasonably familiar with the missing individual should be interviewed.

The question of dentists who provided care should be vigorously pursued, for it often happens that several dentists have given treatment during the same time interval. The length of residence in various localities would suggest the potential of dental treatment having been provided. Questions on dental care for a toothache, broken teeth, dentures, removal of wisdom teeth, and dental infections might remind the interviewee of an occasion involving a dentist other than the regular family dentist. Recollection of a broken jaw or facial injury could lead to the discovery of skull X-rays taken in a hospital, thereby providing information about sinus outlines and shapes in addition to teeth. A history of orthodontic care might provide useful additional records such as

plaster models and panoramic X-rays not common to general dental care. The area of residence early in the individual's life and knowledge of the water supply at that time could provide an insight into tooth coloration and possible carious damage with subsequent dental repair.

Involvement of the individual or his family with third-party dental care programs in the form of insurance providers, government, or institutions frequently leads to the discovery of dental records and X-rays. Certainly tact is necessary during discussion of institutionalization to obtain reliable information.

Despite the proverbial "cheese" when snapshot portraits are taken, photographs providing dental information are somewhat uncommon. Pictures taken during happy times such as high school events, family gatherings, and parties have a high smile potential. Any photograph can be helpful in discovering tooth shape, bite relationships, and dental work as well as other supportive evidence. Inquiries concerning their availability should be emphasized and pursued.

Casual observations by the individual being interviewed concerning the missing person are informative. Typical is the comment "wires around the teeth," which possibly indicates the presence of a partial denture. Dark or discolored teeth might indicate decay, a dead tooth, or ingestion of large amounts of tetracycline antibiotics during tooth formation ages. The shape of the face reflects the type of occlusion while such comments as "loose teeth," "bad gums," "bad breath," and "showed a lot of roots," imply severe periodontal disease, possibly with diminished bone supporting the teeth.

Items in the interview detail important points in the investigation rather than allow happenstance to bring out information. Possibly these efforts will not provide specific details, but they are certain to help in developing a general evaluation of the missing person's dental condition. Professional dental records often provide incomplete information about the missing individual's total dental condition, making the interview crucial to a positive identification.

Professional Dental Records

The forensic odontologist should obtain all available dental records and X-rays from his professional colleagues rather than requesting the investigator to do so. He can review and evaluate the records while in the presence of his colleague, immediately clarifying any vague areas and pursuing any important questions which might arise. Professional information particular to the patient and treatment provided can be jointly examined to avoid mistakes and confusion. To provide protection for the forensic odontologist from invasion of privacy lawsuits, a legal release appropriate to the particular state's laws should be exercised.

Antemortem Record

Using all available information, the antemortem dental record can be prepared. It should include the following information:

- (1) sources of information;
- (2) a standard charting system (such as the universal system);
- (3) a word description using tooth names instead of numbers;
- (4) adequate, true copies of all X-rays and photographs; and
- (5) a paragraph summarizing all details to be used for verbal or telex transmission using tooth names.

The record then becomes part of the case file of the agency handling the missing

person report. With a properly prepared antemortem record, many inquiries concerning the case can be handled by the investigator rather than the odontologist.

Summary

Forensic odontology can provide a service early in cases of missing persons where foul play is suspected. The combined effort of the professional police investigator and the odontologist prior to the discovery of an unidentified remains allows for an efficient, accurate identification procedure. The forensic dental interview can provide a working format or starting point in developing a planned interrogation procedure concerning dental information. In such a manner, the planned interview can enhance the investigator's efforts in missing persons cases and other cases requiring dental identification.

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