Using Simulation to Evaluate Clinical Competence After Impairment

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Abstract

It is important for individual dentists and the profession to have access to a process for evaluating the clinical competence of practitioners who are professionally impaired as a result of an accident or a medical disability. No common standards for such evaluations currently exist, however, as demand for this type of assessment is still rare.

This article reviews the evaluative approach taken by a team of experienced dental educators in examining three dentists who suffered from medical disabilities. An attempt was made to standardize the evaluation process by using clinical simulation to create an environment that would be comfortable for the dentists and acceptable to the lawyers and the insurance companies. Following evaluation, recommendations on individual competence were made, contributing to a faster resolution of legal and insurance issues.

MeSH Key Words: *clinical competence; dentists; evaluation; patient simulation; professional impairment.*

© J Can Dent Assoc 1999; 65:384-6
This article has been peer reviewed.

The use of manikins for training and evaluating dental students is well documented.[1-4] Patient simulation gives students the opportunity to learn different techniques in the laboratory before using them on real patients. Simulation is useful for evaluating performance in periodontal examinations, taking of intraoral radiographs and various other basic operative dental procedures. Interest in patient simulation continues to grow, as evidenced by changes in dental education programs.[5]

Using simulation to determine whether previously licensed dentists, who have been physically incapacitated, are fit to continue practising is still new, however. Clinical competence evaluations are often difficult to complete as dentists sometimes refuse to cooperate when testing conditions are set by external agencies. The challenge of evaluating these special cases is to develop an objective testing environment and method that is non-threatening to dentists and fulfills the requirements of insurance companies and legal counsel. The purpose of this article is to determine whether the evaluation of clinical competence using simulation techniques could be standardized for the benefit of dentists, insurance companies and lawyers.

Evaluation Criteria

Testing simulations were prepared for three dentists who were no longer practising because of medical disabilities. An expert team, consisting of two dentists possessing considerable teaching and evaluation experience, a dental assistant and a video operator met with each subject the day before the evaluation to go over the schedule of events and the simulation procedures. All three dentists were given a tour of the facility, a teaching laboratory at the University of Alberta's faculty of dentistry equipped with manikins and simulation stations. The dentists were informed that the focus of the evaluation was on dexterity, i.e., fine and gross motor skills, and that they would be evaluated to determine whether they could perform procedures smoothly, with some degree of difficulty, or not at all. No attempt would be made to assess the quality of a particular procedure.

Each evaluation lasted four hours. The tasks selected were those most often performed by a general dental practitioner during the course of a typical day. Subjects were asked to do a cursory intraoral examination for caries and periodontal health using the WHO periodontal probe for safety. They were also asked to take 10 to 12 intraoral radiographs.

Competencies evaluated included ability to glove and mask, adjust the dental chair and assume an appropriate operator position; dexterity in positioning films intraorally and mobility during exposure of radiographs; patient positioning, use of mouth mirror, placement of rubber dam, clamp placement and removal, delivery of local anesthesia, and use of periodontal instruments and rests for grasp and stability. Operative dentistry features that were examined included handpiece management, bur handling, preparation of teeth (crown, onlay, amalgam and composite), adequacy of preparation, noting of damage to adjacent teeth, instrument transfer, and manipulation of dental materials. Oral surgery techniques such as forceps management, use of elevators, and suture management were also reviewed.

The dental assistant was there to provide help as in a real practice situation. The evaluation team was therefore able to observe instrument transfers and other exchanges required of the typical dental team at chairside.

Each evaluation was videotaped with a corresponding time log (dentists were not timed when performing tasks). The unedited tape of the simulation was submitted with the examiners' written reports. Each expert did an independent evaluation using the videotape for review. The procedures were graded as follows: easily done, completed with some difficulty, and not accomplished. The grading scale was established by the examiners.

Results of the Evaluation

The first case was a former practising dentist debilitated by Parkinson's disease eight years previously who had made a slow but remarkable recovery as a result of intensive therapy, to the point where his impairment was difficult to detect to the untrained eye. The insurance carrier wanted to see if therapy had restored enough manual skill to allow a return to practice. The dentist thought himself unable to perform tasks safely and felt that the intense mental and physical skills required to perform dental procedures would create a stressful situation, causing further loss of dexterity. An independent evaluation was needed. The insurance carrier requested a "work capacity" evaluation through an occupational rehabilitation centre. The centre contacted the dental faculty of the University of Alberta to determine if such an evaluation could be made in a confidential manner. Direct patient contact was excluded since the dentist was no longer licensed to practise, having voluntarily surrendered that privilege several years before upon realizing that the disease had diminished his fine motor skills.

During the testing, tremors slowly increased until becoming quite noticeable after one hour. The dentist consequently scored progressively worse over the course of the evaluation. The recommendation was therefore made that the dentist was unfit to return to practice, which convinced the insurance carrier that disability payments were appropriate.

The second case involved a 41-year-old dentist injured eight years previously when the brachial nerve in her left arm was damaged in an attempt to surgically remove a lesion from the nerve, causing an immediate loss of both fine and gross motor skills on that side. Subsequent repair allowed the dentist to hold objects in the left hand and position that hand for useful work by "walking" with the fingers until the desired position was achieved. Legal counsel for the defendant retained the evaluation team to assess motor skills and to determine if the injured dentist could perform routine procedures. The team was also to provide insight as to possible alternative dental career choices.

The injured dentist expressed concerns about being a "bit rusty." The evaluation team assured her they would not time any procedure and would focus solely on her capacity to perform the tasks. The evaluators recorded that the subject was nervous at the beginning, but became progressively less so as the session advanced. They concluded that the subject was not capable of performing all duties of a general dentist. They also recommended that if retraining was attempted, it should be in oral pathology, oral radiography, dental public health or related areas, and that it would be contingent on qualifying for advanced training. The evaluation team offered to advise the dentist as to the various career paths available to her.

The third case involved a dentist in his mid-thirties diagnosed with an arthritic condition that allegedly caused swelling in his hands, preventing him from performing tasks associated with general dentistry. The dentist was receiving disability payments. His insurance carrier had requested the evaluation.

The evaluation showed a deterioration in abilities after 90 minutes. The dentist, who complained of swelling and pain in his right hand, was allowed to soak it in warm water for five minutes. He also asked for a larger glove, complaining that the previous one had caused constriction when his hand began to swell. The problem was adequately captured on videotape. The remainder of the examination was marked by several breaks to allow the dentist to rest or soak his hand. Increased difficulty in holding and adjusting several instruments was noted. The evaluation team identified a moderate problem in having the dentist perform various tasks as a result of the swelling and reported pain, and recommended he investigate other career options requiring less manual exercise such as dental public health, dental radiology or practice administration.

The Need for Simulation Testing

Testing the clinical competence of dentists who suffer a professional impairment should be done in an objective setting under the review of expert dental educators. Careful planning to determine evaluation parameters must be done. The more objective the evidence, the more confidence there will be, by all parties involved, in the results of the evaluation. The goal is to avoid the judicial process by providing clear evidence that will allow a negotiated settlement.

It is incumbent upon lawyers seeking the services of dental educators to advise them of the reasons for the testing and the ramifications of specific outcomes. The dentist being evaluated must give informed consent and cooperate with the evaluation team. All parties must feel that the subject is being treated fairly.

Even if the evaluation shows that a dentist possesses adequate skills to perform routine procedures, the question of licensing for practice is still not resolved. At issue is whether the subject should be licensed based solely on a simulation evaluation. If an insurer reduces or eliminates disability payments as a result of an evaluation, the subject will be forced to apply for a licence to practise. However, if there has been a long period of inactivity prior to the evaluation, other important factors such as psychological and practical barriers should also be considered. If eventually licensed, the dentist would be held to the same standards with respect to malpractice as other practising dentists.

In legal actions involving work-related injuries or negligence, it is often necessary to determine whether the injured party has the ability to return to pre-injury employment. The testing process is possible under a rule of court that allows for an independent medical examination in personal injury cases where damages are sought. Such determination is significant as the amount of money paid by the negligent person for harm done to the injured party can be affected.

Lawyers need to determine with as much accuracy as possible the capability of the injured party to perform in his or her chosen profession. Lawyers and judges rely on expert evidence to help quantify the loss suffered by an injured party claiming an inability to return to the practice of dentistry. Consequently, it is imperative to have a trustworthy evaluation team, a cooperative subject, and a commitment from agents representing all parties so that the results from patient simulations can be seen as valid. In the three cases reviewed, the simulation evaluations helped resolve issues of safe practice and malpractice insurability. The degree of comfort felt by all parties with the simulation process, the actual evaluation and ensuing discussions, contributed substantially to reasonable case resolutions. Such an approach — which would have merit in the eyes of dentists, dental regulatory authorities, lawyers and insurance companies — should be considered as a basis for developing evaluative standards applicable in any Canadian jurisdiction. ◆

Acknowledgments: *Dr. M. Grace, department of dentistry, University of Alberta, for editorial comments, diligence and encouragement to publish; and Dr. D. Scott, department of dentistry, University of Alberta, for his efforts as co-evaluator, educator and colleague.*

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The views expressed are those of the authors and do not necessarily reflect the opinion or official policies of the Canadian Dental Association.

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