

# Rational Dental Care: Part 1. Has the Concept Changed in 20 Years?

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## SOMMAIRE

Le concept des «soins dentaires rationnels» a vu le jour il y a 20 ans quand il est devenu clair que les plans de traitement idéalisés pour les personnes âgées fragilisées et fonctionnellement dépendantes étaient souvent inappropriés. Dans le premier de cette série de 2 articles, nous examinons les raisons qui ont poussé à la création du concept.

**Mots clés MeSH :** decision making; dental care for aged; geriatric assessment; patient care planning

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Oral health has been defined as “a standard of health of the oral and related tissues which enables an individual to eat, speak and socialize without active disease, discomfort or embarrassment, and which contributes to general well being.”<sup>1</sup> Oral health problems are among the most prevalent chronic problems that elderly people have to deal with.

In clinical geriatric dentistry, decision-making and problem-solving are essential components of clinical diagnosis and treatment planning.<sup>2-4</sup> The fundamental questions that the clinicians must answer are:

- What is the patient’s dental problem? What is his or her primary complaint?
- How and why did it occur?
- What other modifying factors influence the problem? (Box 1)
- Can I, as the clinician, help to solve this problem or do I need help from other health care professionals?
- Can I predict the outcome of the treatment that I think may help the patient?

In young people, factors that affect decision-making are whether the clinician has the skill and resources required to treat the patient; whether the patient has the time and desire to accept the treatment plan; and whether the patient has the financial ability to pay for the treatment.

In older adults, the problem is much more complex. The dental needs of older people are more extensive and the patient may have a medical history that modifies or limits treatment. He or she may be taking medications to treat chronic diseases, and these may affect the oral cavity directly or require modification of treatment. The patient’s physical frailty may limit travel or time of treatment. The patient may be cognitively impaired and, therefore, unable to understand a treatment plan or have the neuromuscular skills to clean his or her teeth or to wear dentures.

In 1984, Jim Beck and I published a paper<sup>5</sup> in which we defined our concept of geriatric dentistry and the treatment that some older, frail and dependent patients need; we called it “rational dental care” (Fig. 1). We explained that

**Box 1:** Modifying factors that should be evaluated in preparing a rational treatment plan

- The patient's desires and expectations
- The type and severity of the patient's dental needs
- How the patient's dental problems affect his or her quality of life
- The patient's ability to tolerate the stress of treatment (his or her mental and medical statuses as well as mobility)
- The patient's ability to maintain oral health independently
- The probability of positive treatment outcomes
- The availability of reasonable and less-extensive treatment alternatives
- The patient's financial status
- The dentist's ability to deliver the care needed (skills and available equipment)
- Other issues (for example, the patient's lifespan, family influences and expectations and bioethical issues)

Source: Adapted from Berkey and others<sup>22</sup> and Ettinger<sup>21</sup>

individualized care should occur only after all the modifying factors have been evaluated and that this approach is much more appropriate for older patients than “technically idealized dental care.” The amount of stress involved in implementing an idealized treatment plan could pose health risks to some older medically compromised patients and limit the potential benefit of the treatment, thus making it inappropriate. Or a patient's medical or cognitive status might make it impossible to deliver such idealized care.

At that time, our thinking had been influenced by several occurrences. First, we were seeing more older adults who had kept some of their teeth, and evaluation of data from the 1983 Iowa State-Wide Dental Survey<sup>6</sup> made it clear that a younger group of elderly people had emerged, which could be called “the new elderly.”<sup>7</sup> These older adult dental consumers were better educated, more politically aware and more demanding of health services and health care providers. They had one or more chronic medical condition, but were probably healthier than past cohorts and more actively involved in preventive behaviours. This group was less likely to be edentulous, and they were interested in keeping their remaining dentition, which required more complex care than in the past when emphasis had been on complete dentures. Although there are no national studies in Canada, data show the same trends in the aging of the population and in the reduction of edentulousness.<sup>8-11</sup>

Second, if an edentulous person with dentures has a problem, the dentures can be removed and the person can eat food prepared in a blender. However, a dentate person with an oral problem needs the services of a dentist. Further, to treat such a person requires the use of a local anesthetic; therefore, it is important to know the patient's medical and drug history and understand the possible drug interactions of the local anesthetic and the epinephrine used as a vasoconstrictor.<sup>12-15</sup>

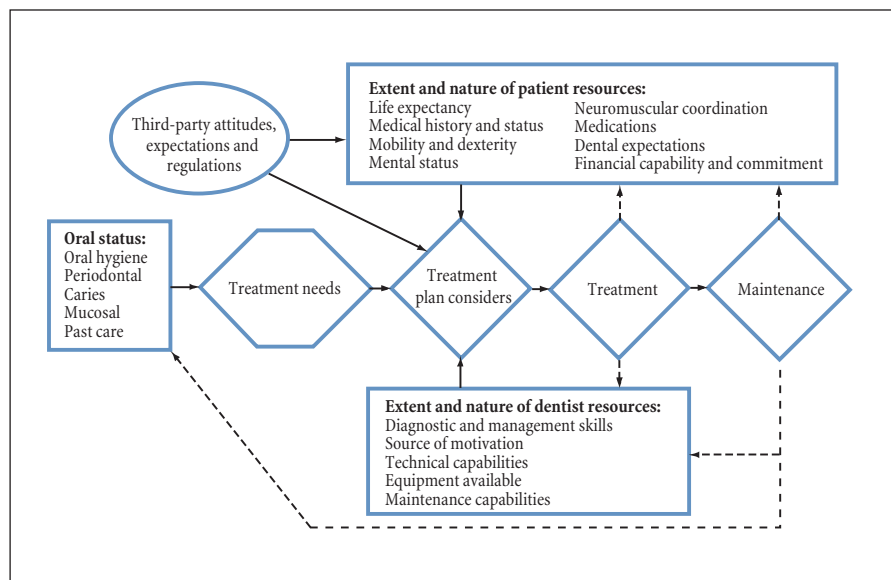
Third, we noticed that some patients were coming to our dental school once and never returning. When we evaluated these patients, we found that age was not the issue; they were physically or medically frail and could not cope with the movement to and from the multiple clinics of a dental school.

Fourth, we realized that most older people are relatively healthy and ambulatory and have, possibly, 1 or 2 chronic medical problems. Treatment for such individuals is well within the realm of a general dentist who has received some additional training in patient management problems that may be related to the normal aging process. At that time, we defined that kind of dental care as “dentistry for the older adult” rather than geriatric dentistry.<sup>5</sup>

The fifth point was that dentistry is not like medicine. In medicine, it is important to make a diagnosis. Once a diagnosis is made, the treatment is usually well prescribed, often guided by evidence-based studies. Dentistry is more like surgery in that treatment includes removal of an infected part.<sup>2</sup> Like surgeons, we need an operating room with specialized instruments to carry out this treatment. Much of our treatment is based on anecdotal data and experience rather than evidence-based studies. It was clear that a dentist treating geriatric patients needs experience and must be technically competent and, therefore, must be a good clinician.<sup>16</sup>

The national data showed that most people (95%) aged 65 and older live in the community. Of these, 5% are homebound and approximately 17% have a major limitation in mobility because of some chronic condition. The rest of these 65+ year olds are relatively healthy and ambulatory. Thus, about 70% of people 65 years and older can travel to the offices of a general dentist independently, approximately 20% would have access problems unless a caregiver helped them, a further 5% are homebound and another 5%, who are institutionalized, might require a dentist to provide care for them at their place of residence.<sup>17</sup> The data from Canada are very similar; only 20% of elderly Canadians are restricted in their activities of daily living due to chronic health problems.<sup>8</sup>

The medical profession has been fairly specific about the definition of geriatric medicine. The Institute of Medicine defines geriatrics as the “branch of general medicine concerned with the clinical, preventive, remedial and social aspects of illness in the elderly.”<sup>18</sup> Thus, geriatrics in



**Figure 1:** Model for rational dental care for older adults.

medicine is associated with illness, but how is that relevant to dentistry? We modified the Institute of Medicine’s definition to delineate more than one geriatric population. Our definition was that geriatric dentistry was the provision of dental care for adults with one or more chronic, debilitating physical or mental illness with associated medication or psychosocial problems.<sup>5</sup>

We stated that, although many of these conditions were associated with increasing chronological age, they were not a direct consequence of the aging process. In our definition, the geriatric dental patient was a biologically compromised adult who may or may not be older than 65. However, most geriatric patients were older than 65 and could be separated into 2 groups: frail elderly people and functionally dependent elderly people.

In 1983, a flow diagram of decision-making, called the “rational dental care model,” was presented at a national meeting in Chicago.<sup>5</sup> Although the relative influence of the various modifying factors was unknown, it was hypothesized that this was the mechanism by which dentists experienced in geriatric care made treatment planning decisions. It was suggested that this model could be usefully incorporated into dental education, because it specified a thought process that would be helpful for diagnosis and treatment planning for all patients. The model was modified in 1984.

To test our model, we evaluated the similarities and differences among 5 dentists who were experienced in caring for geriatric patients.<sup>19</sup> Each practitioner individually examined and planned treatment for the same older adult volunteer patient. The dentists were videotaped as they interviewed and examined the volunteer patient. Later, the dentists were inter-

viewed while viewing the videotape of their examination. This interview was also videotaped. During the interview, the dentists were asked to stop the examination videotape and comment on any issue they wanted to discuss. The interviewer could also stop the tape during an interaction between the dentist and the patient and ask the dentist to clarify his or her rationale for asking a particular question. After the examination and interview, each dentist was asked to develop a treatment plan for the patient.

From the videotapes, it was clear that the patient was varying his response slightly from dentist to dentist and that he was not a reliable historian. In spite of that, it seemed that after initial contact with the patient and after looking at the dentition, the dentists knew what treatment they wanted to perform.

Dentists spent the remainder of the time with the patient developing the feasibility of their preferred option.

The patient assessment model used by the 5 dentists was based on clinical experience. If most dentists follow this patient assessment model, the implications are obvious. The more limited the range of clinical experience with geriatric patients, the more restricted will be the ability of the dentist to conceptualize appropriate, rational treatment strategies. Thus, training in geriatric dentistry must provide a wide range of clinical experiences so that dentists feel comfortable with their diagnostic and treatment planning abilities.

Older adults do not tend to seek care unless they have a perceived problem.<sup>20</sup> Therefore, when older people seek care, it is important to try to resolve their chief complaints as quickly as possible when developing the treatment plan. This plan must take into account the patient’s attitude, genetic predisposition to oral disease, lifestyle, socialization and the environments that influence his or her health beliefs and behaviours.<sup>21</sup> Berkey and others<sup>22</sup> identified 4 domains of dental need: function, symptomatology, pathology and esthetics. The modifying factors that challenge dentists when prioritizing treatment interventions for elderly people are illness and frailty. When planning the patient’s restorative and oral rehabilitative treatment needs, dentists must recognize, prioritize and balance the influences of multiple age-associated dental issues, the patient’s changing systemic health and psychosocial factors.<sup>22</sup>

Berkey and others<sup>22</sup> used a case history to present the modifying factors (Box 1) that they believed must be identified to evaluate a rational treatment plan. If patients are physically disabled or cognitively impaired, dentists need to understand their wider needs, such as how they function in

their environments with their medical problems, pharmacotherapy, their social support systems and the diverse sociologic variables, as well as how oral health care fits into their environment.<sup>23,24</sup>

Clinical decisions in dentistry tend to be based on qualitative, subjective estimates of the specific treatment needs of patients that will result in a net benefit to them. As we have shown, this subjective restorative treatment plan is often based on the dentist's personal clinical experiences rather than on evidence-based studies.<sup>19</sup>

Successful dental care depends on good communication between dentists and patients, their families or significant others, as well as other health care providers. Different older adults have different needs and their functional disabilities affect their ability to accept and receive dental treatment. Also, treatment plans change over time with these older adults due to their illnesses, their finances and their support systems.

## Discussion

In 1984, when we defined the concept of rational dental care, it was to refute the idea that anything other than idealized dentistry was secondhand dentistry, other care was compromised and only "bad dentists" offered it. In the new millennium, the concept of rational dental care is still needed. However, we must ensure that rational care is appropriate by increasing its evidence base with longitudinal studies to show that it represents a high level of comprehensive dental care. In the last 20 years, the aging population and the number of frail older adults have increased and a majority of them have some natural teeth. Many do not want to lose their teeth; they value dental care and, over their lifetime, they have spent a significant amount of money to maintain their dentition. However, as this group of older adults ages and acquires more chronic diseases with more comorbidities and an increasing polypharmacy, they will challenge us with more and more complex problems to maintain their dentition.

The old idealized extension-for-prevention philosophy of care cannot solve their problems; it just results in more restorative work. To treat this population, we need rational thinking and so the concept of rational dental care today is more relevant for most general practitioners than it was 20 years ago. This means that we need to treat the causes of their oral diseases not just the acute manifestations. We need to better understand the onset and progression of oral diseases in older adults, especially those in some at-risk subcategories. We need to understand the oral disease process, how it is affected by salivary dysfunction and especially how biofilm changes affect oral tissues. We need to help change societal attitudes and government policies so that older adults have better access to care. And we also clearly need some new biocompatible materials that will make restorative care easier.

In summary, rational dental care is a framework of decision-making that allows a clinician to develop the most

appropriate care in the best interests of the patient after weighing all the underlying or modifying factors. Although it applies to a patient of any age, because the number of modifying factors increases and their interactions become more complex as people age, it is particularly relevant for older adults. ♦

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