



Treating the Older Adult Dental Patient: What Are the Issues of Concern?

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ABSTRACT Just as aging successfully requires a multifaceted approach that includes full engagement in life, maintenance of high physical and cognitive function, and avoidance of disease and related disability, so does the care of adult patients. This geriatric treatment model suggests that understanding the psychosocial, behavioral, and medical presentation of the older patient may prove to be the key to the ultimate success of the dental/oral treatment arrived at collaboratively by the dentist and the older patient.

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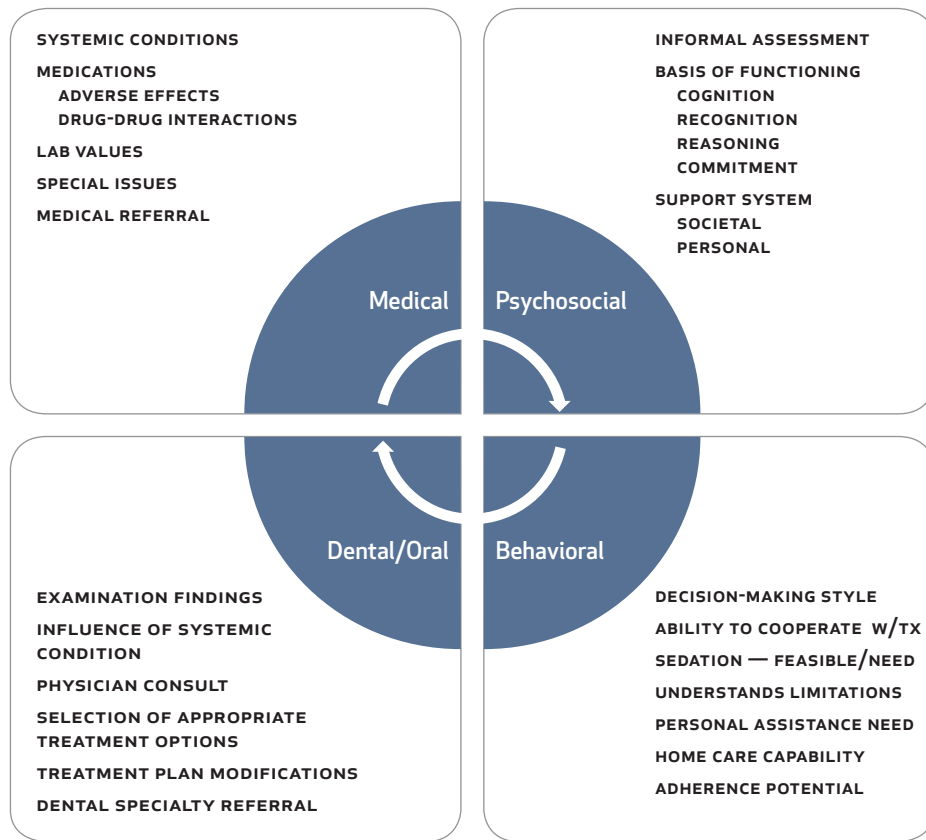
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Understanding the differences between “normal aging” and “pathological conditions seen more frequently with aging” help us better appreciate a older adult’s needs that may impact treatment. While a patient may readily mark-up a medical history questionnaire with his/her medical conditions of hypertension or diabetes, there are no overt red flags of that person’s decreasing pharmacokinetic capabilities that occur even in the absence of disease due to declining kidney function with age. As a result how an older person metabolizes and excretes the medications prescribed by the dentist should always be foremost in the prescribing practitioner’s mind and geriatric dosing recommendations followed.

Variations from physiologic standards, even in those patients who indicate no appreciable medical conditions, need to

be considered. One of the four vital signs, body temperature is a great example of this, for in the elderly, rarely achieved is a normal temperature of 98.2 degrees Fahrenheit, which is now considered normal for adults, with typical fluctuations in temperature throughout the day.¹ Rather, a mean body temperature of 97.4 to 97.8 degrees Fahrenheit is more acceptable as a normal temperature reading in older adults with no diurnal rise evident for the very old who are also typically the coldest.² This means that a fever in an older adult is likely to occur at a much lower level than in middle aged and younger adults and not be appreciated.

Furthermore, alterations to disease presentations (e.g., silent MIs) and response to therapy (e.g., syncope from medications) further defines the exceptional vulnerability to diseases and their complications seen in older



©Geriatric Dental Care: Factors for Consideration. Roseann Mulligan 2008.

FIGURE 1. Geriatric dental care model: factors for consideration. The four factors of the framework: medical, psychosocial, behavioral, and dental/oral health reflect the unique interrelated components in a personal case history. Each specific factor is considered in the case study and how it will influence and determine the appropriate diagnostic plan. The model illustrates the process utilized for the practitioner's oral health assessment and treatment planning regarding the particular needs for the older adult patient.

adults. Clearly, dentistry for geriatric patients presents unique management challenges that, per a recent ADA survey, a large percentage of dentists are beginning to appreciate and feel they need to know more about, especially in the areas of managing patients with complex medical histories (68.5 percent), xerostomia (63.6 percent), manifesting dementia (49.1 percent), or having caries (48.7 percent).³

With certainty it is known that health and physical function decline over time. However, the rate of decline varies widely across individuals and systems with some organ systems actually demonstrating little to no decreases in capacity and biologic activity during function.⁴ The impact of some aging

changes can in some cases be fully or partially modifiable (e.g., eyeglasses and hearing aids), while other aging changes may not need any compensatory modifications (e.g., hair loss).

When functional declines are seen they are frequently due to one or more factors including physical health and/or medications, mental health including decreased cognition, feelings of fear/anxiety, or sensory deprivation. Given this complicated milieu it should be expected that aging successfully will require a multifaceted approach to care that considers not only the avoidance of disease but includes factors such as the individual's engagement with life, the maintenance of high physical and cognitive function, and the avoidance of disease related disability.⁵

Describing the Model

FIGURE 1 displays a model that lays out the various factors needing to be considered during the interaction between the dentist and older adult patient. This model depicts characteristics related to the medical, dental/oral, psychosocial, and behavioral considerations that may impact successful care delivery regardless of the setting. It is important to recognize that the model does not stop at the medical and dental/oral findings but must include the psychosocial and behavioral environment in which the patient is functioning, for factors in these areas are equally as important to successful treatment as are the physical findings. It also should be noted that although the factors are divided into discrete areas, there are many interactions between the various components, thus, the arrows in the central part of the figure are circled to call attention to how each area influences the others.

Medical

As might be anticipated the medical section includes any systemic health issues already diagnosed or undiagnosed conditions displaying signs or symptoms that may have been observed in the dental office. All medications (whether prescribed, over-the-counter or borrowed from friends, neighbors, family) are documented as is the potential for adverse reactions and interactions of those substances to new medications to be delivered, prescribed, or recommended by the dentist. This section includes the patient's lab values and referrals to other health care providers as any signs or symptoms observed during dental care may necessitate.

Finally, in this section are special considerations that might be needed such as prophylactic antibiotics, adjustment

to steroid therapy, or precautions due to bleeding risks as a result of a medical condition or current therapy. Given the high rate of chronic disease in those age 65 years and older, with 75 percent having one chronic condition and 50 percent having at least two such conditions, it is important that the treatment model consider all of the patients diagnosed, as well as covert medical problems.⁶

A medical history questionnaire with no positive findings should result in a high index of suspicion from the dentist and prompt a referral to a physician or a phone call or written consultation when there is already a physician of record (see the dental/oral section of the case model for actual comments regarding the physician consult). With 80 percent of older adults taking at least one prescription medication and nearly half taking three or more, the potential for side effects and adverse reactions due to medications is quite real.⁷ Therefore, acquiring a thorough medication history and especially one that includes a listing of the 1.8 typical over-the-counter drugs likely to be taken daily by individuals 65 and over is critical.⁸

Psychosocial

While interacting with the patient to confirm and explore the specifics of each medical history finding and during the exam and assessment of the oral health status another activity is taking place: the informal assessment of the patient's psychological state, social variables and behavioral capability. To all appearances this information is obtained casually by the practitioner and often-times not documented in the chart; yet, the information acquired from the older adult in this manner may prove to be the key to the ultimate success of the chosen treatment. Through this interac-

tive dialogue the practitioner forms an impression of whether the patient is operating from a basis grounded in reality.⁹

The patient's cognitive ability to follow a line of reasoning, to recognize and prioritize information provided, to understand the consequences of agreeing to or withholding consent, and the ability to commit to a plan of professional visits, regular home care, and long-term follow through, as well as the financial obligations that will accrue as

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a result of such acceptance become clear as the practitioner and patient interact.

A critical component of the psychosocial factors relates to the support system of the patient. Societal supports include ready availability of transportation and easy access to health care, housing and in-home health aides to name a few of the most sought-after services. In spite of the difficulty obtaining many of these supports, most elderly continue to live in traditional housing in the community throughout their older adult lifespan, with 93 percent living in such an arrangement through age 84, while a full 76 percent of individuals age 85 are still in their homes. When given the choice, aging in place is the desire of most older adults (89 percent).¹⁰

Successful aging in place though requires that the individual is able to

maintain a home not only conducive to ongoing decreases in physical capabilities and motor skills, but that a personal support system is available with family, friends, neighbors, and spiritual advisers supplementing the community support systems that provide home maintenance and repair, shopping and meal preparation, socialization opportunities, financial counseling, grooming and bathing assistance, mental and spiritual counseling, and opportunities for employment and learning.^{11,12}

Medicare enrollee records from 2005 demonstrate that 65 percent of U.S. adults 65 years or older have some difficulty in accomplishing activities of daily living, ADL, in one or more of the following areas: bathing, dressing, eating, getting in and out of chairs, walking or using the toilet, needing either equipment, or personal help to accomplish the task.¹³ Learning about each patient's use of such supports better helps the practitioner understand the patient's strengths, limitations, and depth of resources.

Visits to the dental office or clinic by older adults will continue to be the usual model followed by most seeking oral health services. Long-term care or nursing home settings actually are the residences of very few older adults (1 percent at age 65-74) until the age of 85, whereupon the proportion jumps to 14 percent.¹⁴ Given that nearly half of individuals who are currently 65 years old will live to age 85, it is likely that more practices will be challenged to provide dental care to skilled nursing home residents who are brought to them or need to be seen at their facilities.¹⁵

Behavioral

Older adults' decision-making styles may range from handing off decision-making to a practitioner who demonstrates a

paternal approach, to a desire for autonomy in all aspects of their care. It is important to understand their expectations and operational behavior and encourage the patient's family member to assist in making decisions when the patient is unable to do so himself/herself. Many of the findings in the medical and psychosocial sections previously described have an influence on the behavioral variables.

For example, an individual with advanced dementia would likely have difficulty in cooperating with dental care. One who cannot cooperate may be an appropriate candidate for one of the many sedative modalities, as long as the benefits outweigh the risks of the intervention.

Not all older adults understand their limitations or are willing to accept help when unable to perform tasks at the level of proficiency needed to adequately support their personal health and hygiene. This is when properly coached family and friends may help in providing personal care without infantilizing the individual. The ability to predict adherence to proposed treatment regimens is another area that needs assessment based in reality. Often times it is up to the dental practitioner to convey a realistic estimation of the effort needed for home care and debunk unrealistic assumptions (e.g., fixed prosthesis and the mistaken assumption that because they stay in the mouth and are porcelain or metal they will be easier to clean and less susceptible to disease).

Dental/Oral

The dental/oral section begins with the examination findings but also considers the influence of any systemic condition on the oral cavity. It includes a physician consult as needed to discover information about previously diagnosed systemic diseases, lab values, and more information about any additional signs

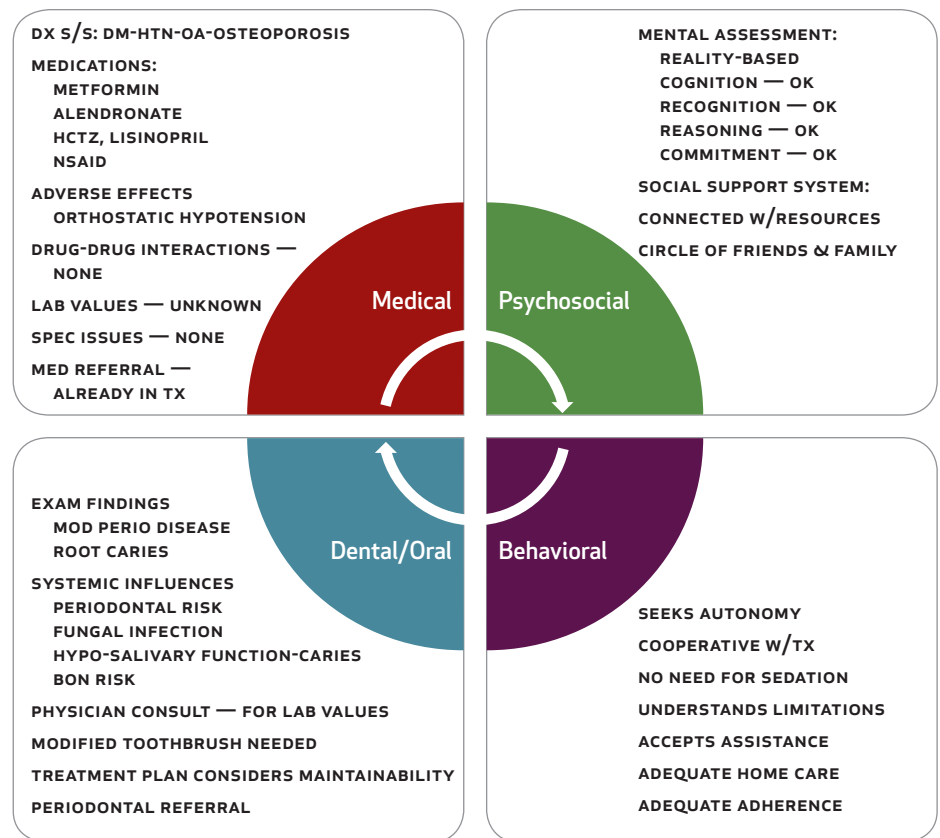


FIGURE 2. Geriatric dental care model: case study of MG: factors for consideration. The four factors of the framework: medical, psychosocial, behavioral, and dental/oral health reflect the unique interrelated components in MG's case history. Each specific factor is considered in MG's case study and how it will influence and determine the appropriate diagnostic plan. The model illustrates the process utilized for the practitioner's oral health assessment and treatment planning regarding the particular needs for MG's unique treatment plan.

or symptoms of ill-health as noted during the dental visit. Development of a treatment plan that results in a maintainable outcome must then consider the findings of the medical, psychosocial, and behavioral elements. This treatment plan would thus give consideration not only to the patient's medical problems and the progressiveness of a diagnosed condition, but also consider any declines, disabilities, or diminishing resources in the elements that contribute to the psychosocial and behavioral fields.

Applying the Model to a Patient Case

FIGURE 2 displays the model with the results of patient MG who presents to your dental office for care. She is 92 years old and she arrived unescorted for her

10 a.m. appointment. She is wearing a very nice three-piece suit, shoes, and a matching purse complete her ensemble. When you ask if you can take a picture of her she immediately consents and strikes the pose of a photographer's model.

Medical

Using the systematic framework to investigate factors as previously described, it is learned about MG's diagnosis of diabetes (type 2), for which she is taking metformin; her hypertension is being controlled by hydrochlorothiazide (HCTZ) and lisinopril; she is self-medicating her osteoarthritis with over-the-counter NSAIDs; and her osteoporosis is being treated with the bisphosphonate, alendronate.

A review of the adverse effects of each drug indicates that orthostatic hypotension could be an outcome for individuals on anti-hypertensives. Therefore, cautioning the patient to stay seated in the dental chair after it is returned upright before allowing her to stand is important to allow adequate brain perfusion and eliminate the potential for fainting. By running the interaction feature of an online drug program you observe that none of the medications that this patient is presently taking are expected to interact with medications that are typically prescribed and delivered in the dental office (e.g., local anesthetics and antibiotics).

Since the patient does not check her blood glucose levels at home and doesn't really know what her levels are when she has her blood drawn at her physician's office or her hemoglobin A1C values (blood work typically used to monitor a patient with diabetes), a medical consultation would be in order. It would be wise, however, to complete the dental exam first, noting the presence and extent of oral disease and to develop a possible plan of treatment so that the scope of treatment issues such as extent of any surgery, resulting bacteremia, physiological and psychological stress, and healing is able to be estimated and provided to the physician.

Psychosocial

MG lives in a beach house in an upscale community in southern California and also has her own apartment in Paris. She indicates that she was widowed some years ago but that she gets along fine and still has her male friends whom she enjoys entertaining and who often bring her groceries. She is visiting your office because her current prostheses are unsatisfactory and her appearance is very important to her. She also thinks she has cavities

as she has seen some discolored areas.

During this discussion, MG has no flights of fancy, she clearly recognizes the issues associated with her treatment, responds appropriately to questions asked, and states that her resources are not unlimited. She engages in a rationale discussion about treatment costs in time, inconvenience, and money relative to the benefits of an enhanced appearance and improved function. She also indicated that on her way to this first appoint-

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ment she was pulled over by a highway patrol officer who told her she was going too slow on the freeway and that she needed to stop using the freeway or risk being ticketed. Since there exists no public transportation between her home and the dental office, she subsequently arranges for a college student from the nearby university to serve as her driver in later visits. She enjoys living alone, has a housekeeper who comes in regularly and cleans and cooks for her, and has many friends who take her out and run errands.

Behavioral

In the dental office, MG demonstrates her desire for individual autonomy taking an active role in all decisions related to her care. She is highly cooperative and looks forward to her treatment

without anxiety. She understands the limitations of the various treatment choices and her own physical limitations related to reduced oral hygiene capability as a result of her osteoarthritis. Although she typically disregards automated personal hygiene devices, she is willing to use an automatic toothbrush to compensate for her reduced grip strength so that she can clean her mouth more thoroughly. She displays a willingness to adhere to treatment recommendations and strategies, an assessment that over time is borne out as treatment progresses and is completed.

Dental/Oral

MG's exam findings include moderate generalized periodontal disease and multiple carious lesions on root surfaces. Her periodontal disease is not unexpected given the increased rate of periodontal disease in diabetics, especially those who are not in good control. Fungal infection consistent with a putative diagnosis of *Pseudomonas candidiasis* is found and is likely an outcome of her diabetes. Palpation of her salivary glands demonstrates a diminished salivary flow that is a contributory factor in the etiology of root caries. Her history of bisphosphonate therapy puts her at risk for osteonecrosis and, therefore, nontraumatizing prostheses and appropriate preparations prior to extractions must be part of the treatment protocols.

Due to the patient's lack of information about her diabetes, a consultation would be prudent to determine the laboratory values once possible treatment options are determined. Her osteoarthritis has affected her grip strength and decreased the effectiveness of her oral hygiene efforts; an automated toothbrush or alternatively a tooth-

brush with a modified handle will be recommended for her daily oral hygiene efforts as will home fluoride. Once the physician input has been considered a final treatment plan is arrived at that considers all of the patient's capabilities to maintain a healthy oral environment.

Why Is There Need for a Model?

As the number of older adults increases in the 21st century, dental practitioners need to recognize and carefully modify care delivery based on age-related and age-associated changes, diseases, drugs, and individual determinants that characterize each geriatric patient. This case outlines many of the challenges in maintaining the oral health of older adults, assuring good home care, and regular professional visits.

Clinical decision making for the dental care of older patients is becoming extremely complex, especially as more older patients will be dentate and demanding care. Gone are the days when treatment for an older adult routinely meant providing complete dentures; the edentulous rate for those ages 75 and older having fallen to an all time low of 30 percent in 2007 (as compared to a 1957 rate of 61 percent).^{16,17}

Instead, the challenges of caries, especially root caries and the contribution of hyposalivary function to caries and periodontal conditions, the oral sequelae of systemic diseases (e.g., diabetes) and the incidence and prevalence of mucosal lesions, oral cancers, and traumatic injuries to the intraoral and extraoral facial structures are all issues that must be paramount in the treatment of older adults who are seeking dental care in record numbers.¹⁸⁻²²

In spite of little dental insurance coverage for most older adults, oral health care-seeking behavior as measured by

annual dental visit rates has significantly increased from 37 percent of those 65 years and older in 1983 to 58 percent in 2006.²³ In many cases, the barriers between the older adult and good oral health care are not always financial. Instead, a host of human, societal, educational, and bureaucratic barriers may exist and negatively impact the receipt of proper oral health care and treatment.

Due to the multifaceted nature of the geriatric patient, guidance would

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be helpful to assist the practitioner in caring for the older adult. Although the American Dental Association has in place 34 practice parameters, none of them deal specifically with caring for the elderly, but speak more broadly to issues such as caries, oral lesions, TMJ disorders, and exam components.²⁴ Another national source for clinical practice guidelines, the National Guidelines Clearing House, an initiative of the Agency for Healthcare Research and Quality of the U.S. Department of Health and Human Services provides clinical practice guidelines to a wide variety of health professionals and purchasers of health care systems.²⁵ Unfortunately, of the 251 summaries about dental topics available, this resource has no guidelines on geriatric dentistry.

Reshaping the Dental Treatment Perspective

The rising demographic tide in the numbers of older adults seeking dental care presents a variety of additional challenges including ethical conundrums, resource limitation issues, and innumerable adaptations, and compromises that are part of the unique realities faced by these individuals. Associated life events and demands placed on older adults unmistakably permeate multiple aspects of their lives. Although we are more used to confronting the medical and dental/oral variables as we sort through the potential confounders of a treatment plan, there are frequently numerous psychosocial and behavioral variables that can equally impact the outcome of oral health care.

Focusing on the less familiar inquiry and acquisition of information about the psychosocial and behavioral components involves gathering sufficient information to form a behavior profile, state and gain consensus on specific goals, and customize objectives that matches the individual's unique circumstances and personality.²⁶ Of course, the considerably lengthened life spans of many with serious medical conditions who are undergoing high-tech treatments, and/or the use of investigative or recently released to the marketplace drugs, creates its own challenges for the practitioner who may have had little experience or training in understanding the downsides, adverse reactions, or interactions of such treatments.

Changing social norms relating to the definition and treatment of illness are further factors to consider. The practitioner treating an older adult may be faced with a veritable blizzard of potentially relevant clinical information. How does this care giver decide on the most salient facts and make the most efficient clinical decisions about the process of care?

Preliminary evidence suggests that there is a need for a dental/oral diagnostic treatment planning process for the older patient in the context of medical illness, disability, psychosocial, and behavioral impoverishment.²⁷ Armed with facts about the myths and realities of aging, knowledgeable about the problems older adults face, and being cognizant of how to assess and treat oral health in older persons, dentists can maximize their efforts to treat this large, diverse, and important segment of our society.

Conclusion

The geriatric oral health model presented offers a framework for diagnostic treatment planning. More geriatric oral health models need to be developed and tested that integrate interdisciplinary health and nonhealth-related activities into the dental consciousness so that timely and appropriately targeted interventions may be applied. Following the model presented with consideration given to the psychosocial, behavioral, and medical presentation of the older patient may prove to be the key to the ultimate success for adherence of the chosen dental treatment arrived at collaboratively between the dentist and the older patient. ■■■■■

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