

# Critical Issues in Dental Hygiene

## Oral Health Literacy in the Dental Office: The Unrecognized Patient Risk Factor

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### Introduction

Dental hygienists devote a large portion of their time to educating patients about their oral health, dental procedures and preventive measures to encourage better habits, increase treatment success and assuage patient fears. Clear communication is a vital factor in patient education, but a patient's health literacy is also important and often overlooked by dental health care professionals. Adequate health literacy enables patients to become an active part of the dental health care process and to act in their own best interests. Millions of American adults, who are unable to read dental patient health or insurance information, are unable or unwilling to admit this deficit. A patient's health literacy level can have far-reaching and often surprising consequences. Research has shown that literacy skills predict an individual's health status more strongly than age, income, employment status, education level and racial or ethnic group.<sup>1</sup> The modern health care system makes an unprecedented demand on patients' literacy skills. To successfully negotiate through the system, patients are expected to find more information on their own, understand and accept new rights and responsibilities and make decisions for themselves and others.<sup>2</sup> Dental hygienists are in a unique position to help patients with low oral or general health literacy, thus empowering them to take an active role in their oral health care.

Health literacy is not only the ability to read but includes the skills necessary to decipher dosage charts, understand appointment slips, understand doctor's directions and complete medical, dental or insurance forms. Improved consumer health literacy

### Abstract

**Purpose:** According to the report Healthy People 2010, oral health literacy is the degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate oral health decisions. Studies have linked a patient's health literacy to a variety of significant health behaviors, statuses and outcomes. This article provides an overview of the literature concerning the levels of health literacy among adults in the U.S., the effects of literacy levels on treatment and patient outcomes, literacy assessment in the practice setting and the effects of a patient's literacy on communication with a dental health provider. The implications of inadequate patient oral health literacy on the practice of dental hygienists and communication recommendations are discussed, as is the need for future research specifically on oral health literacy.

**Keywords:** Communication Barriers, Dental Health Education, Health Knowledge, Attitude, and Practice, Health Promotion, Literature Review, Oral Health, Oral Health Literacy, Patient Acceptance of Health Care, Patient Participation, Professional-Patient Relations

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is deemed so important that it was included as an objective in the U.S. Department of Health and Human Services' Healthy People 2010, and is a part of the Surgeon General's 2000 report, Oral Health in America.<sup>3,4</sup> Oral health literacy, as defined by Healthy People 2010, is "the degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate oral health decisions."<sup>3,4</sup> As a result of its inclusion in Healthy People 2010, health literacy research has greatly increased over the last decade. Researchers are studying the effects of low health literacy on patients in different settings and developing instruments to aid in the identification of those who struggle with literacy.

Patient health literacy is considered to be an important aspect of patient care by the American Dental Hygienists' Association (ADHA). The ADHA has presented to the Institute of Medicine (IOM) committees on oral health, including An Oral Health Initiative, a study convened by IOM in 2010. The study, comprised of dental hygienists, dentists, nurses, physicians, epidemiologists and health promotion experts, examined oral health literacy from a broad perspective with a goal to increase oral health literacy in Americans.<sup>5,6</sup> ADHA has concluded that a patient's literacy is a factor to be evaluated to determine a patient's level of general or oral health risk in the Standards of Clinical Dental Hygiene Practice.<sup>7</sup>

In 2008, the American Dental Association (ADA) House of Delegates passed the following 3 resolutions to promote communication in the profession:

1. The need for dental professionals to communicate in a clear, accurate and effective manner
2. Continued funding through National Institutes of Health, including the National Institute of Dental and Craniofacial Research, to encourage research in health literacy
3. Strategic plan development through the ADA Council on Access, Prevention and Interprofessional Relations and other agencies to improve the oral health literacy of the public<sup>8</sup>

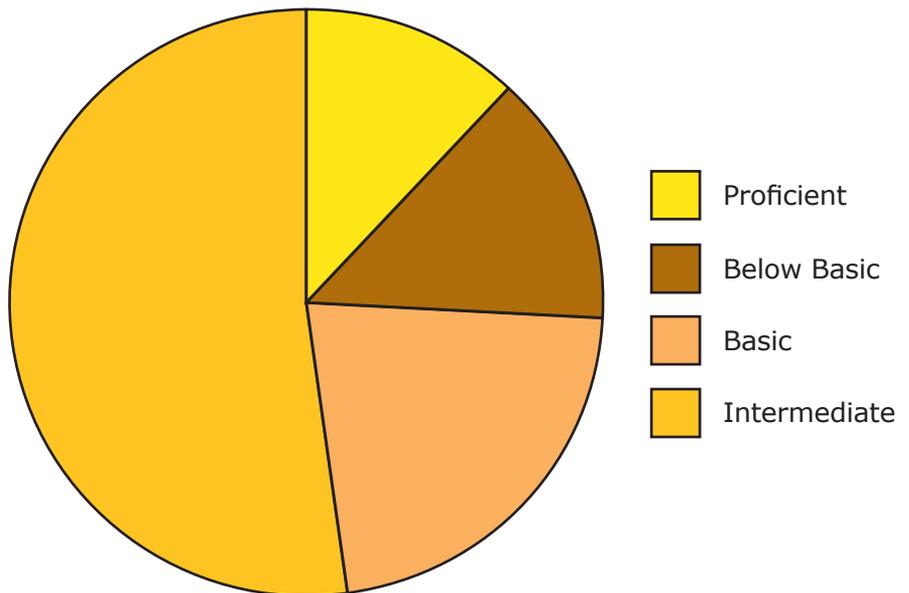
In 2009, ADA's Council on Access, Prevention and Interprofessional Relationships published Health Literacy in Dentistry Strategic Action Plan 2010–2015 to provide guidance to the ADA, dental professionals and policy makers to improve patient health literacy by developing a set of principles, goals and even some specific strategies.<sup>9</sup>

This literature review discusses the levels of health literacy among adults in the U.S. and the effect of literacy levels on dental treatment and patient outcomes. Suggestions for health literacy assessment in the practice setting are discussed as are recommendations for effective communication between the dental team and the patient who struggles with literacy.

### Adult Literacy in America

The National Center of Educational Statistics conducted the National Assessment of Adult Literacy

Figure 1: Adult Health Literacy Levels: Results from the National Assessment of Adult Literacy, 2003



(NAAL) in 2003 to assess the literacy of U.S. adults.<sup>10</sup> The NAAL was administered to approximately 30,000 adults: 18,000 adults living in households and 12,000 prison inmates. The following results are based on the household sample. Participants in the NAAL survey were grouped in 1 of 4 literacy levels: below basic, basic, intermediate and proficient, depending on their responses to the questions. The results of the assessment give an accurate snapshot of adult health literacy in America (Figure 1).<sup>10</sup>

### Effects of Health Literacy on Treatment

The link between a patient's health literacy level and dental or medical prognosis has been demonstrated by current research. Patients who have insufficient health literacy levels have less knowledge about their chronic medical conditions and are less able to manage the conditions.<sup>11-13</sup> They are at a higher risk of being hospitalized and tend to remain in the hospital longer than patients with higher health literacy rates. Patients with low health literacy levels are more prone to make medication errors due to misinterpretations of drug label instructions or a lack of knowledge of dosing methods or measurements.<sup>14,15</sup> Researchers have also concluded that inadequate health literacy has a strong association with mortality in elderly persons.<sup>16</sup> Parental health literacy can affect the health of a child. Children with parents or caregivers who have low health literacy scores are more likely to be hospitalized, engage in more risky health behaviors and have less desirable health outcomes both in dental and medical situations. Studies have shown that when parental literacy is improved, children benefit.<sup>17-19</sup>

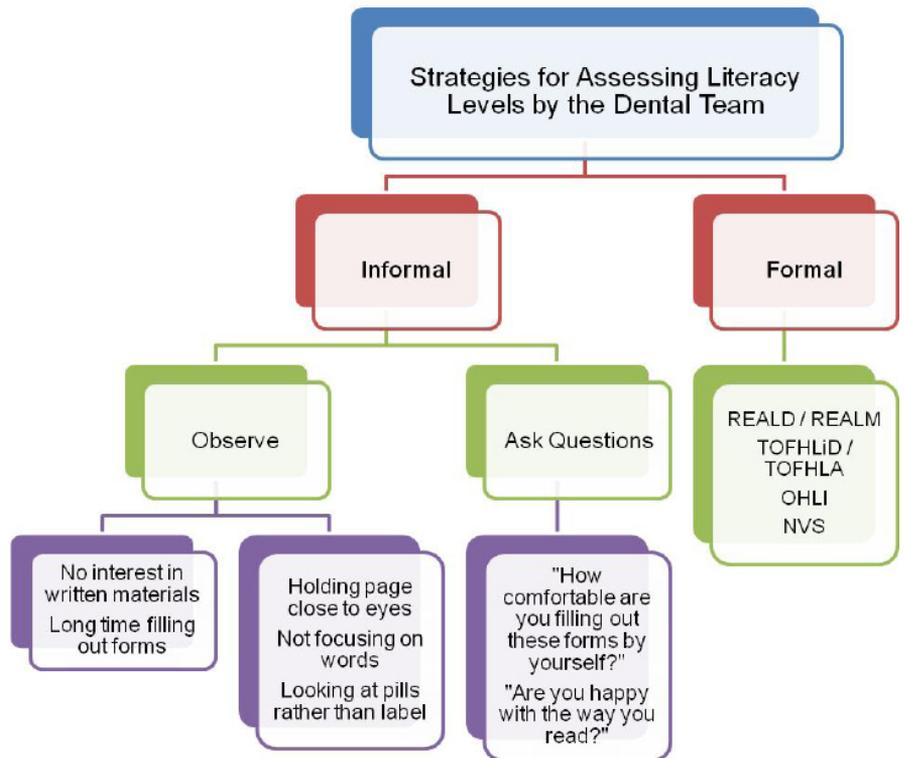
Health professionals tend not to recognize the signs of low health literacy and are not aware of their patients' reading levels. Studies have found that both physicians and residents consistently overestimate their patients' literacy levels and fail to recognize patients at risk of low literacy.<sup>20,21</sup> A health professional's overestimation of a patient's literacy level can present a barrier to effective communication and be detrimental to a positive treatment outcome.

### Assessing Literacy in the Practice Setting

Patients with limited health literacy can be difficult to identify, as the problem is spread across social, racial and economic borders. In 2007, Jones et al concluded that a significant number of dental patients have low health literacy. These patients exhibit a lower level of dental knowledge, less recent dental care and worse self-perceived oral health status.<sup>22</sup>

The dental hygienist can look for signs that a patient has a low literacy level. Patients with a low literacy level will often show little or no interest in written documentation, such as pamphlets or health history forms, and will often express frustration or impatience when encouraged to use printed materials. A patient with low health literacy will take a long time filling out forms and will return them incompletely or incorrectly completed. A patient may make excuses to avoid reading or completing a form, saying "I forgot my glasses at home," or "I'm too tired to read right now, I'll take it home and do it later." Poor readers may show signs of nervousness, confusion, frustration or even indifference and withdraw from situations where their reading difficulties may be noticed. Patients may also give the wrong answers to questions about something they have just been given to read. A dental hygienist can often spot a patient who is having problems reading by simply watching the patient's eyes. If a patient's eyes wander over the page, do not focus on one area and then move on, he or she is most likely not actually reading. Poor readers may also hold the paper close to their eyes or follow the words with their finger while reading. Another sign of low literacy is when the patient looks at the pills inside a bottle rather than reading the label when describing the purpose of the medication. Such a patient has associated the size, shape and color of the pill with its intended purpose rather than actually reading the label.<sup>23,24</sup>

Figure 2: Strategies for Assessing Literacy Levels by the Dental Team



The dental hygienist can take a proactive approach to health literacy assessment. If low literacy is suspected, a casual conversation on the subject can often reveal valuable insight into a patient's level of literacy. Simply asking a patient "What do you like to read?" "Are you happy with the way you read?" or "How often do you read?" can begin a conversation on the subject. A study by Wallace et al in 2006 determined that clinicians can identify patients with low literacy levels by asking them the simple question, "How confident are you filling out medical forms by yourself?" The answers patients gave to this question corresponded well to their performance on formal literacy assessments.<sup>25</sup> Approaching a patient with low reading ability with a simple, non-judgmental question may allow the hygienist to offer the assistance a patient needs without causing any shame or discomfort.

If a more formal assessment of health literacy is desired, there are several options available, such as the Rapid Estimate of Adult Literacy in Dentistry (REALD), the Test of Functional Health Literacy in Adults or the Oral Health Literacy Instrument (Figures 2, 3).<sup>26-32</sup> Although health literacy assessments can be an important tool for the dental team, a formal assessment, however brief, may not be ideal in an office practice setting. There is a possibility of causing the patient discomfort, alienation and shame when a literacy assessment becomes a part of an exam. Persons who live with the daily struggles resulting

from an inability to read well develop elaborate coping skills to hide their deficiency, even from those to whom they are closest. If a literacy assessment becomes a regular part of a dental exam, patients with low literacy skills may begin to avoid offices that administer such tests and not receive needed treatment. Formal health literacy assessments can be safely administered in research settings in which the patients are informed of the purpose of the study and give consent but are not currently recommended as regular screening techniques.<sup>33</sup>

### Communication

Many factors can affect a person's ability to read, comprehend and use information. This is true for all persons, regardless of their literacy level, but a low literacy level can compound simple problems. Conditions that are inherent in dental treatment can often make a patient's literacy ability decrease. Stress and illness are often the largest contributors to a patient's inability to read, understand or remember a health provider's advice. Even those with good general literacy skills may find dental and general health care information difficult to understand, and as a result, be hesitant to ask questions.<sup>24</sup> Patients with low health literacy scores do not ask as many questions as those with sufficient health literacy scores. They are less likely to ask a health care provider to repeat a concept they do not understand. Dental health care providers must be aware of this and take measures to make themselves clear to the patient.<sup>34</sup>

A patient's age and the normal aging process can affect health literacy levels. Among the many factors are the generational culture of a patient and physical or mental health conditions. An elderly patient's background can affect interaction with a health provider. Many elderly patients grew up in a culture where one did not question the recommendations of a health care provider. The patient was to do as told regardless of their understanding of the treatment. Factors such as a loss of visual, auditory or mental acuity in the aged population also change a patient's health literacy levels. Reading ability scores tend to decline dramatically after the age of 55.<sup>23</sup>

Figure 3: Popular Formal Health Literacy Assessment Tools

Medical			
REALM (Rapid Estimate of Adult Literacy in Medicine)	1991	Word recognition test	5min
REALM	1993	Shortened version of REALM	2min
Test of Functional Health Literacy in Adults	1995	Reading comprehension and numerical ability	22min
NVS (Newest Vital Sign)	2005	Literacy and numeracy skills	3min
Dental			
REALD-30	2007	Word recognition test	5-10min
REALD-99	2007	Longer version of REALD-30	5-10min
Test of Functional Health Literacy in Dentistry	2007	Reading comprehension and numerical ability	30min
Oral Health Literacy Instrument	2009	Comprehension, numerical ability, and general oral health knowledge	45min

Language barriers can be a contributor to a patient's low health literacy level. When a person is under stress, comprehension and communication are inherently easier in a patient's native language. If that language is not the language of the health provider, communication will be hindered. Spoken language skills and reading skills can be drastically different within the general population, and these differences can be greatly magnified in persons who are communicating in a language that is not native to them.

Cultural differences must also be considered under the scope of a patient's health literacy. Many cultures give the family priority over the individual, and as a result, health-related decision making is done as a family unit – the patient may not be the person responsible for making the decisions for the family. A patient may not be comfortable asking questions of a health professional of a different gender or status. Some cultures advocate showing deference and politeness to those who are perceived as authority figures, such as health care providers. Often, in an attempt to not offend or appear confrontational, a patient from such a culture will not ask questions. Such differences can make communication difficult for the patient and the provider must insure the patient understands the diagnosis, treatment plan and ramifications of not following the treatment plan.<sup>35</sup>

It is important for the dental hygienist to use good communication skills when treating patients who have low health literacy. The amount of information initially given should be limited to what the patient needs to know as opposed to what is good to know. The provider should focus on 3 to 5 main points the patient should know to aid in comprehension. Re-

Figure 4: Medical Terms and Plain Language Alternatives

Medical Term	Plain Language alternative	Medical Term	Plain Language alternative
Abscess	Pocket of infection	Halitosis	Bad breath
Allergen	Something you are allergic to	Hypertension	High blood pressure
Amalgam	Filling material	Immediate	Right away
Analgesic	Pain killer	Inflammation	Pain, swelling, heat, redness
Anti-inflammatory	Lessens swelling, fever, or pain	Intake	What you eat or drink
Benign	Not cancer	Migraine	Very bad headache
Bridge	False teeth	Neglect	Don't take care of
Bruxism	Grinding your teeth	Non-Prescription	You can buy it without a prescription
Carcinoma	Cancer	Occlusion	Way teeth fit together when you bite
Cardiac problems	Heart problems	Oral	Mouth
Caries	Cavities; tooth decay	Orthodontics	Braces
Chronic	Constant; life-long condition	Palate	Roof of your mouth
Confidential	Private, secret	Periodontal disease	Gum disease
Crown	Cap or cover over your tooth	Permanent	Lasting forever
Deciduous teeth	Baby teeth; first set of teeth	Pulp	Tooth nerves
Denture	False teeth	Refrain	Stay away from; stop doing
Diagnosis	Cause or name of your illness	Root Canal	Removal of damaged tooth nerve
Drug interaction	One drug's effect on another drug	Severe	Very bad; dangerous
Enlarge	Get bigger	Side effect	Effect caused by a medicine you take
Extraction	Pull a tooth	Symptoms	What you are feeling; signs
Function	Does the job; action	Toxic	Poisonous
Gingivitis	Gum disease	Xerostoma	Dry mouth
Sealants	Coating painted on teeth to prevent cavities	Tempromandibular Joint	Joint that attaches jaw to skull

Adapted from: Clear Health Communication: Media – Words to Watch.<sup>38</sup>

search has concluded that less than 50% of the information conveyed to a patient during the course of an appointment will be retained.<sup>36</sup> Dental offices should strive to maintain a “shame-free” environment. All patients should be offered assistance and staff should never try to single out patients they believe have low health literacy skills.<sup>2,37</sup>

Using plain language that is simple, easily understood and jargon-free is important in ensuring the patient understands. Dental hygienists are surrounded by technical terms and jargon as part of their education and daily practice – the language used by providers is often not easily understood by the dental patient and their family. Using everyday language to convey meaning is much easier on both the provider and the patient. Terms such as cavities as opposed to caries, or gum disease as opposed to periodontal disease can improve patient/provider communication (Figure 4).

Dental hygienists should always explain the rea-

sons why a treatment has been recommended and emphasize the benefits of complying with the treatment plan. It is important to be clear and concise when explaining how a patient should comply. Patients can easily become confused with dental care devices, oral rinses or medication if their use is not sufficiently explained. Drawing pictures, using visual aids or active demonstrations will aid in the comprehension of directions. Dental hygienists should also remember to speak slowly and allow for ample time for the patient to voice any questions. Although the urge to repeat directions in a louder voice when not understood is strong, research has shown it actually distracts from the understanding of the message. Communication is more likely if the hygienist rethinks the words and manner used to convey the message.<sup>39</sup>

Patients with low literacy levels often have highly developed coping systems that have allowed them to function in society. If asked by a health provider if they understand the information that they have been

given to read, patients will almost always reply in the affirmative in an attempt to not admit their deficiencies. A health provider should seek this information in a non-judgmental and casual manner. Telling patients that many people have problems with these instructions will give patients an opportunity to admit their ignorance and still keep their pride.<sup>23</sup>

The Teach-Back Technique can be a useful tool to ensure that a patient understands the instructions from a health care provider. By using this technique, the provider asks the patient to repeat the instructions in their own words or demonstrate the concept. This can be accomplished in several non-threatening and non-judgmental ways. Patients should not be asked questions that can be answered with a yes or no response – learning will be reinforced if patients are asked to supply information or demonstrate and restate concepts.<sup>40</sup> Another tool is the Ask Me 3 education program developed by the Partnership for Clear Health Communication. Ask Me 3 is an office philosophy that seeks to communicate to the patient that the dental team in that office want to answer 3 main questions: What is my main problem? What do I need to do? Why is it important for me to do this? Patients are encouraged through posters, brochures and flyers placed throughout the office or clinic to ask these questions, write down the answers and bring the information home with them.<sup>41</sup>

Patient education pamphlets, booklets or other written material are useful in providing patients the information they need about privacy, dental conditions, procedures or treatment options. However, reading level must be considered when choosing the material. If a dental hygienist provides patients with pamphlets or other health information in print form, they should be written in no higher than a fifth or sixth grade level. The average American reads at a seventh to ninth grade level – health related materials are often written at a much higher level.<sup>42</sup> If possible, written material should be illustrated with clear graphics.<sup>43</sup> Pamphlets should focus on a few main important facts stated as clearly as possible. Health Insurance Portability and Accountability Act notices and informed consent paperwork are even more difficult for a patient with literacy concerns as the nature of the documents require them to be written at a higher reading level.<sup>42,44,45</sup>

## Conclusion

Through awareness of oral health literacy, dental hygienists can enhance the patients' role in their own health care. Millions of American adults have health literacy problems which are not related to intelligence or education – many factors play a role in how a patient can understand and process health information at any time. Patients' health literacy rates have been linked to prognosis, compliance and even mortality, yet many dental health professionals may not even be aware the patient is having a problem. Oral health literacy can be determined in many different ways. Formal assessments can be conducted or informal, conversational, questions may be asked of the patient. With this information, a dental hygienist can tailor oral health information to the patient's needs. Plain language and assurance that questions are welcomed and assistance is available will give a patient confidence in the dental hygienist and the office or clinic.

Health literacy is a relatively new subject in the medical and dental literature. Research is growing rapidly, but has been dominated by studies held in medical settings. Although some research has been done on the implications of inadequate oral health literacy in specifically the dental setting, more research is needed.

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