Improving Imaging Care for Diverse, Marginalized, and Vulnerable Patient Populations

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Although much attention has been paid to the reduction of disparities in health care within the United States, these issues continue to exist. Such efforts include increased focus on patient centeredness and cultural responsivity. These concepts are based on the recognition that diverse, marginalized, and vulnerable patients may possess different physical, psychologic, or social characteristics that contribute to their diversity and susceptibility. Such patients may face numerous obstacles and barriers when seeking medical care, including financial constraints, difficulties with communication, a limited understanding of how to navigate the health care system, and not feeling welcomed, respected, or safe. It is essential that the radiologist and members of the radiology care team understand and embrace patients’ unique characteristics to provide effective and appropriate care to all patients. This article illustrates the spectrum of knowledge that benefits radiologists and members of the radiology care team when interacting with and providing care for the growing pool of diverse, marginalized, and vulnerable patients.

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SA-CME LEARNING OBJECTIVES

After completing this journal-based SA-CME activity, participants will be able to:

- Identify patients who may be considered diverse, marginalized, or vulnerable, with regard to the imaging environment.
- Recognize possible barriers to care and understand what can be done in the imaging environment to reduce such barriers.
- Understand that the acquisition of knowledge and experience in caring for diverse, marginalized, and vulnerable patients is an ongoing process.

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TEACHING POINTS

- Vulnerable patients, defined as those at greater risk for poor health status and health care access, may have different physical, psychological, or social characteristics that contribute to their diversity and susceptibility.
- It is important to recognize that not all disabilities are visible, and as a provider, especially in the field of radiology, one is not expected to determine on his or her own if a patient has a disability.
- For certain patients, such as those with autism or developmental delay, anxiety may relate to the sensory experience during the imaging process, which could be triggered by loud noises associated with an MRI scanner, a cold table in the fluoroscopy suite, or discomfort associated with intravenous line placement.
- LGBTQ patients face many unique challenges when it comes to health care, including stigma, discrimination, and lack of access.
- When caring for patients of differing ethnic or cultural backgrounds, it is important to be aware of and have respect for differences in customs and beliefs.

This has developed into the concept of patient-centered medicine, which focuses on the totality of the patient rather than on the disease (illness-oriented medicine) (3). Gradually, medical paternalism has given way to sharing the decision making with the informed patient so that resulting treatment can respect the patient’s preferences, needs, and values (4).

For decades, health care leaders and educators have recognized that cultural and linguistic barriers between health care providers and patients might interfere with the effective delivery of health services, creating the need for physicians to develop cultural competence. This has been defined by the U.S. Office of Minority Health as “a set of congruent behaviors, attitudes, and policies that come together in a system, agency, or among professionals that enables effective work in cross-cultural situations” (5).

Historically, cultural competence has been taught through the use of lectures and online modules. However, such educational activities can be lacking in their ability to translate into the effective provision of culturally sensitive care. The more appropriate term cultural responsivity should instead be used to highlight the importance of providing care that meets the personal perceptions, needs, and expectations of the increasingly diverse spectrum of patients. In this domain, the acquisition of knowledge and experience is an ongoing continuous practice that is necessary to provide effective and appropriate care.

Initially, identification of the underlying problems was focused on specific populations, targeting groups such as immigrants with limited English proficiency (LEP) and limited exposure to Western cultural norms, with the goal of bridging the cultural divide that existed between these populations and health care providers (6).

In one study, Asian immigrants with LEP reported experiencing discrimination from office staff, including interpreters, who “looked down” on them because of their limited English-language abilities (7). The broad variety of immigrants in the United States, however, makes it impossible for physicians to develop an awareness of the cultural traditions of the many different communities. Another problem in viewing patients merely as members of ethnic or cultural groups rather than as individuals with unique experiences and perspectives is the danger of providers stereotyping patients and making inappropriate assumptions about their beliefs and behaviors. In response to these concerns, the authors adopted a balanced approach, incorporating the acquisition of some background knowledge of the specific cultural groups encountered in clinical practice with the development of attitudes and skills that were universally relevant and not specific to any particular culture (7).

The application of cultural responsivity has been expanded from primarily immigrants to essentially all minority groups, particularly those most affected by racial disparities in the quality of health care. Research studies have demonstrated that racial and ethnic minority groups received lower quality health care than the majority population, suggesting that social and cultural barriers between health care providers and nonimmigrant people of color might be affecting the quality of care (8–10). Contributing factors include distrust by minority patients toward health care providers or institutions, possibly related to historical or ongoing experiences of discrimination, as well as a recognition that providers might harbor either overt or unconscious biases about people of color that influence their interactions and decision making.

Communicating with Patients

Some racial and/or ethnic minority groups and those with a lower socioeconomic status have a high probability of being uninsured, impeding their ability to seek and obtain health services (11). However, even when the access to care, diagnosis, and illness severity are the same as those of nonminorities and individuals from higher socioeconomic backgrounds, minority patients and individuals from lower socioeconomic backgrounds tend to receive less health-related information from their providers. Consequently, patients from minority and low-income populations are more likely than white or higher-income patients to feel disenfran-
chised in the decision-making process regarding their own care, and they perceive a lack of respect for their preferences.

Studies have shown that minority groups do not value various aspects of medical interactions in the same way. African American, Latino, and Asian patients rated providers’ displays of concern, courtesy, and respect as the most important factors in health interactions (12,13). Physicians’ nonverbal and interpersonal communication behaviors related to empathy and establishing rapport were found to be more important to minority patients than the verbal transmission of health-related information when compared with the preferences of white patients (14). Listening and spending adequate time were especially important aspects of health interactions for Asian and Hispanic patients (8), whereas African Americans cited participating in decision making and building a trusting relationship with providers as the most important aspects of provider-patient interactions (10).

Various Conceptual Models Regarding Diseases
Most providers trained in Western biomedicine view diseases as natural mechanistic errors that are correctable by repairing organs or manipulating chemical pathways (15). In Western biomedicine, disease has no spiritual or metaphysical cause, although some diseases (such as sexually transmitted diseases and disorders related to illicit drug use, smoking, overeating, and alcoholism) may be deemed as related to personal failures.

In contrast, patients from non-Western or indigenous cultures may understand their illnesses differently, and the separation of mind, body, and spirit characteristic of Western biomedicine may be difficult for such patients to accept (16,17). Thus, the meaning of illness may include natural (eg, a fall that breaks a bone), supernatural (eg, caused by God’s will or malevolent spirits), or metaphysical (eg, “bad airs” or seasonal changes) explanations (15).

Problems may arise when the health care provider assumes the biomedical view of disease and discounts a patient’s differing perspective of the illness. Conversely, when both parties understand each other’s explanatory models of disease and illness, medical decisions can take place in an atmosphere of mutual respect rather than frustration and misunderstanding (18).

Addressing the Problem

Why is This Relevant in the Imaging Environment?
Above all else, the goal of the radiologist is to provide care to patients. The main opportunity to do so is during a patient’s time within the radiology department, which begins the moment the patient enters the imaging environment. As the patient population becomes more diverse and as the health care environment becomes more consumer driven, it is essential that radiologists couple their problem-solving skills with cultural awareness to adequately serve all patient populations (19). However, all members of the radiology care team, including front-desk staff, technologists, and nurses, must also demonstrate these skills to participate in the effort to respectfully and effectively care for all patients.

Disparities and Factors Impacting Health and Medical Imaging
Although much attention has been paid to the reduction of disparities in health care within the United States, these issues continue to exist. Vulnerable patients, defined as those at greater risk for poor health status and health care access, may have different physical, psychological, or social characteristics that contribute to their diversity and susceptibility (20). Populations that may be considered vulnerable or marginalized are listed in the Figure and are divided into three groups on the basis of a patient’s (a) physical abilities, (b) psychological and cognitive status, and (c) social, cultural, and ethnic differences. These patients may face numerous obstacles and barriers when seeking medical care, including (a) financial constraints, (b) difficulties with communication, (c) difficulties understanding how to navigate the health care system, and (d) difficulties feeling welcomed, respected, and safe.

Additional challenges arise when unfair stereotypes are applied and implicit biases arise. Stereotypes and biases can interfere with a health care provider’s attitude and approach toward a patient, hindering the effectiveness of care and resulting in unequal treatment (21). Understanding and identifying one’s own implicit biases may help limit treatment bias in medical decision making. Numerous online tools are available to help individuals gain self-awareness of biases and stereotypes (22).

When caring for diverse, marginalized, or potentially vulnerable patients, it is essential that health care providers are informed, compassionate, respectful, and aware of the pitfalls associated with the use of stereotypes. While generalizations may be helpful to begin a conversation with a patient regarding unique cultural differences, stereotypes are often oversimplified, may be laced with bias, and should always be avoided.

We recommend the use of people-first language, which emphasizes a person rather than
a disability. For example, identity-first language may describe someone as a “disabled person,” whereas more respectful people-first language would describe someone as a “person with a disability.” This type of reaffirming language underscores that the patient’s disability is secondary and is not his or her defining characteristic.

**Approaches to Caring for Diverse, Marginalized, and Vulnerable Patients in the Radiology Department**

We address approaches to interacting with many of these patient populations in terms of the three groups outlined in the Figure. Please note, however, that many patients may bridge more than one group, and the same foundational principles apply when providing care to all patients. Such foundational principles of culturally responsive care include being respectful, patient, and compassionate; avoiding judgment; and practicing active listening.

It is important to recognize that not all disabilities are visible, and as a provider, especially in the field of radiology, one is not expected to determine on his or her own if a patient has a disability. Rather, providers are expected to listen, observe, and ask how they can help to best partner with a patient with a disability to provide the best care possible and to understand what considerations are most important to the patient.

**Patient Group 1: Physical Abilities**

**Patients with Impaired Mobility**

Radiologists and other members of the radiology care team often lack general training and education surrounding the care of patients with physical disabilities. Patients with impaired mobility may experience difficulties in medical imaging situations, which stem from a lack of staff training, compounded by problems with physical inaccessibility of the various types of imaging equipment. Human factors considerations in designing imaging suites can help improve accessibility for patients with limited mobility and may include providing fixed pads and handholds on imaging equipment, having the ability to adjust the imaging table or gantry height, and providing steps with railings to help patients access elevated imaging tables (23).
Patients with Impaired Hearing
When caring for patients with hearing impairment, it is important to inquire about the patient’s preferred method for communication, which may include using an American Sign Language interpreter, lip reading, or writing back and forth. During an imaging examination or image-guided procedure, consider tapping the patient gently on the shoulder or knee or turning the lights off and on to gain the patient’s attention.

While the Americans with Disabilities Act requires hospitals to allow access to interpreter services, an interpreter cannot be exposed to radiation and must pass MRI screening to accompany a patient into MRI safety zone III or IV (24). Additionally, the positioning of the interpreter is important. The interpreter must be seen by the patient, which may be challenging in certain imaging suites, such as in a US room, which is typically small and has reduced lighting. During imaging examinations or image-guided procedures where a breath-hold maneuver is necessary but the interpreter is not able to be in direct sight of the patient, the interpreter may flicker the lights or use a laser pointer flashed onto the wall from the control room to indicate the beginning and end of the breath hold.

Patients with Impaired Vision
When caring for patients with visual impairment, it is important for the technologist or radiologist to communicate adequately throughout the imaging examination or procedure and to avoid environments with excessive background noise (25). Providing resources in an audio format or that are printed in a large font may also be beneficial to ensure compliance with preprocedure or postprocedure care. Accommodating patients accompanied by a service animal is essential, with the caveat that service animals are not allowed in any environment where they could be harmed, such as in a CT suite when a patient is being scanned, or where they could cause harm, such as in a sterile interventional radiology suite.

Elderly Patients
There may be additional unique challenges when imaging elderly patients. Such patients may be at increased fall risk, may have a tremor, or may have been diagnosed with dementia (26). Soft-immobilization techniques should be used with these patients to minimize voluntary and involuntary motion during an imaging study or image-guided procedure. It may also be necessary to accommodate differences in patient positioning and to assist in transfers to ensure patient safety and minimize fall risk.

The administration of intravenous contrast material or oral barium should be used only when necessary, and clear postprocedure instructions should be provided to help prevent unwanted side effects, such as constipation related to oral barium ingestion. Additionally, when scheduling interventional procedures for elderly patients, a mechanism should be in place to provide clear preprocedure instructions and reminders for important factors, such as the need for nil per os (NPO) status or discontinuing anticoagulation.

Patients with Morbid Obesity
Patients with morbid obesity are at risk for specific obesity-related health conditions such as type 2 diabetes mellitus, coronary artery disease, and degenerative joint disease. This patient population is vulnerable as a result of the social stigma regarding weight and weight bias among those in the medical community. Defined as the negative attitude and beliefs attributed to a patient based on his or her body weight, weight bias may limit the types of treatment and care a patient receives from a health care provider (27,28). Approaching morbid obesity as a chronic medical condition and becoming educated about its treatment may be helpful in minimizing the presence of weight bias among radiologists.

Additional challenges faced by these patients in the imaging environment stem from limited mobility, which may result in suboptimal patient positioning. Further challenges associated with imaging hardware in patients with morbid obesity include the aperture diameter of CT and MRI scanners and the maximum weight the imaging table can withhold.

Certain imaging modalities may have limited use in patients with morbid obesity. For example, the value of US in imaging patients with morbid obesity is severely limited owing to the inability of sound waves to penetrate adipose tissue. At radiography, imaging challenges include the need to use an increased radiation dose and the appearance of scatter and decreased contrast on the images, which may be partially addressed with the use of a grid (29). At CT, imaging parameters may need to be adapted to mitigate beam-hardening and photon-starvation artifacts but should include the use of automatic exposure control to help minimize patient radiation dose (29).

Patient Group 2: Cognitive and Psychological Status

Patients with Developmental Disabilities or Autism Spectrum Disorders
Patients with developmental disabilities or those on the autism spectrum may experience increased
anxiety associated with medical imaging or image-guided procedures. For certain patients, such as those with autism or developmental delay, anxiety may relate to the sensory experience during the imaging process, which could be triggered by loud noises associated with an MRI scanner, a cold table in the fluoroscopy suite, or discomfort associated with intravenous line placement. When treating these patients, we recommend limiting the number of staff with whom a patient interacts during the visit in an attempt to maintain a calm environment.

In addition, before an imaging appointment or procedure, it is important to reflect on what factors may trigger anxiety in that particular situation. Speaking slowly and giving clear literal instructions or explanations, even in writing or with pictures, can help lessen a patient’s anxiety by outlining what to expect during the study. A visit to the radiology department before the imaging appointment provides an opportunity for the patient to experience the imaging environment without the added anxiety of the scheduled study or procedure.

**Posttraumatic Stress Disorder and Survivors of Physical or Emotional Violence**

As with all patients, it is important to ask for permission before touching, examining, or scanning a patient with cognitive or psychological challenges, especially those patients with posttraumatic stress disorder (PTSD) or those who are survivors of physical or emotional violence. This enables the patient to maintain a sense of control over the situation, which may help them cope during a stressful time. In addition, if the patient consents, involving a trusted caregiver or family member in the preprocedural process or allowing the caregiver to be in the examination room when applicable may be beneficial in reducing anxiety.

**Patients with Acute or Chronic Mental Illness**

Patients with acute or chronic mental illness may be at risk for self-harm. If actively suicidal, they may attempt to take advantage of being in a new health care setting such as the radiology department. It is important to be mindful of the environment; items such as sharp objects, plastic trash bags, electrical cords, or cleaning fluids may be used for self-harm. A health care provider or a patient monitor should directly observe and if possible remain with such patients at all times while they are in the radiology department.

**Survivors of Natural Disasters**

As the United States endures frequent natural disasters, including recent events such as Hurricane Harvey and the California wildfires, survivors of these events are exposed to increased physical, mental, and logistic challenges. The emotional impact of developing new relationships with health care providers, navigating complex health care systems, and dealing with complicated insurance coverage issues adds to the stress of these vulnerable patient populations.

Previous research suggests that the burden of PTSD among patients exposed to disasters is significant (30). Following natural disasters, patients may delay care or have difficulty accessing health care facilities (31). Specific to the imaging environment, facilities within proximity to a natural disaster can expect a rapid influx of patients, many of whom will be in need of diagnostic imaging, and it may be helpful to include a radiologist as a member of the emergency response/ triage team to assist in increasing efficiency and throughput in the radiology department (32,33).

**Illicit Drug Use or Alcohol Abuse**

Alcohol abuse and illicit drug use may result in a wide variety of medical problems for patients, which includes a spectrum of neurologic, cardiovascular, pulmonary, and musculoskeletal complications (34). Imaging is often crucial in diagnosing such complications, as patients may be unconscious or unable to fully articulate their symptoms, and therefore providers must have a high index of suspicion.

A patient’s altered mental status owing to alcohol abuse or illicit drug use may mean that he or she is unable to successfully follow directions related to positioning or breath-hold maneuvers, creating additional challenges in the diagnostic or interventional imaging setting. In these instances, physical or chemical restraints may be necessary to ensure the safety of the patient and the imaging staff and to obtain imaging information that is adequate to help provide a diagnosis (35).

**Patient Group 3: Social, Cultural, and Ethnic Differences**

**LGBTQ Patients**

LGBTQ patients face many unique challenges when it comes to health care, including stigma, discrimination, and lack of access. Educating health care providers and connecting with LGBTQ patients—through patient satisfaction surveys and by pairing with community health centers—can help create a welcome safe space for patients where their needs can be met (36). Displaying signs or posters signaling nondiscrimination policies and LGBTQ acceptance and providing LGBTQ educational materials in waiting rooms and imaging areas reaffirms a radiology department’s dedication to
reducing health disparities within this patient population.

Transgender patients may be particularly vulnerable in part owing to the lack of research data available regarding the health of this patient population. In caring for transgender patients, it is essential to inquire about the patient’s preferred name and gender pronoun, which emphasizes the provider’s dedication to provide individualized care. To ensure inclusivity of all patients and to gather accurate information, departmental patient intake forms or questionnaires should inquire about both natal sex (that which was assigned at birth) and current gender identity.

Transgender patients may employ surgical and/or hormonal means of altering their natal anatomy to align with their true identity, a common part of the transitioning process, which may elevate their risk for specific conditions. The slogan “if you have it, check it” was initially introduced for cervical cancer screening in transgender patients (37) but can easily be applied to other screening scenarios in medical imaging, including mammography. This is particularly relevant for transgender women (those transitioning from male to female) with exposure to hormonal therapy, who should undergo breast cancer screening beginning at age 50, as well for transgender men (those transitioning from female to male) without a prior history of gender-affirming breast surgery (sometimes referred to as top surgery), who generally should begin mammographic screening at age 40 (38).

Women

When imaging women, particularly for examinations of the breast and pelvic region, many patients prefer the presence of a female chaperone when a male radiologist or technologist is present (39). In addition, women who live in rural locations may be considered vulnerable and at-risk when it comes to gaining access to essential radiologic screening tools, such as mammography and breast MRI (40).

Religious and Faith-based Needs

Faith-based needs may relate to religious or spiritual belief systems. Such care-related nuances may include the patient’s (a) need for a same-sex provider, (b) possible dietary restrictions that could impact compliance with using oral contrast material, and (c) preferences for results communication. It is important for radiologists to learn to respectfully inquire about such needs, without fear or anxiety. Listed in Table 1 are some questions that we commonly use when assessing faith-based needs. Additional resources and information about faith-based needs in medical imaging can be obtained from a hospital interfaith chaplain.

Ethnic or Cultural Differences, Refugees, and New Immigrants

Refugees, patients of differing ethnic or cultural backgrounds, and those who have newly immigrated to the United States represent some of the most vulnerable patients in the health care system, especially if these patients have limited or no English proficiency (41). When caring for patients of differing ethnic or cultural backgrounds, it is important to be aware of and have respect for differences in customs and beliefs (1). This begins by asking questions about the patient’s cultural background and eliciting a culturally valid social and medical history (42). Specific to radiology, it is important to note if the patient uses alternative remedies and what the patient’s preferences are for results communication. In addition, the patient’s perspective on modesty should be respected, as well as preferences regarding the sex of his or her provider.

Patients of Low Socioeconomic Status

Patients of low socioeconomic status may perceive that they receive inferior care when compared to patients of a higher socioeconomic status, which can lead to marginalization and reduced trust in the health care system. Additionally, the presence of increased disease burden within this population has been associated with increased exposure

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<tr>
<th>Table 1: Provider-Patient Conversations to Assess Faith-based Needs in Medical Imaging</th>
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<tr>
<td>Do you have a religious or spiritual practice that would be helpful for us to know about as we prepare for this procedure? Do you have any preferences that we can accommodate? We want to care for you in the best way possible.</td>
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<tr>
<td>Do you have a favorite practice that helps you feel calm? For example, some people pray, others meditate—feel free to do whatever helps you feel calm. We want to support you in that.</td>
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<tr>
<td>We have interfaith chaplains here at the medical center. If it would be meaningful to you to meet with one of them, please let us know, and we can arrange that.</td>
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<tr>
<td>Some patients have small objects that are sacred or meaningful to them (eg, a necklace or a rosary). While you cannot hold that object during your imaging examination, feel free to bring it with you and we will keep it safe for you.</td>
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to ionizing radiation in the form of diagnostic imaging (43). It is important for the health care provider to recognize implicit biases that may be directed toward patients of low socioeconomic status to help reduce health care disparities (44).

Patients Who Undergo Complementary or Alternative Medical Treatments

Complementary and alternative medicine (CAM) is defined as a set of health care systems, products, and practices not considered part of conventional medicine (45). One facet of CAM is the use of herbal supplements, which is widespread in certain patient populations (46). Some of these supplements may contain pharmacologically active compounds, which can alter coagulation parameters. This information is of particular relevance for the radiologist when performing image-guided procedures. Asking specific questions about herbal supplement use is an important part of obtaining preprocedure medical history. Some commonly used herbal supplements (eg, dan Shen, fish oil, garlic, ginko, and ginseng) may be associated with increased bleeding risk (47). Consider requesting that patients stop taking herbal supplements for 2–3 weeks before they undergo an interventional procedure with moderate or high bleeding risk.

Special Considerations

Patients with LEP and Use of Medical Interpreters

According to the 2013 American Community Service survey by the Census Bureau, a record 61.8 million U.S. residents (more than one in five) speak a language other than English at home (48). This compares to 18% in 2000, 14% in 1990, and only 11% in 1980 (48). Since 2010, the increase was greatest among speakers of Spanish, Chinese, and Arabic. Of those who speak a foreign language at home, more than 25 million (41%) are classified as LEP, a description used by the U.S. Department of Health and Human Services Office of Civil Rights (49).

Various strategies have been employed to surmount these substantial language barriers, including using (a) bilingual health care providers who are proficient in the patient’s language (these situations are often referred to as language-concordant encounters); (b) in-person third-party interpreters, with dedicated trained professional interpreters or ad hoc interpreters (eg, the patient’s family members or friends and the clinic staff); and (c) third-party interpretation resources using technology (50).

A nationally representative survey conducted in 2001 demonstrated that only 49% of Hispanic adults who said they needed medical interpretation always or usually got an interpreter (51). Of those who used an interpreter, 55% of patients worked with an ad hoc staff interpreter; 43% relied on a family member or friend; and only 1% had a trained dedicated medical interpreter. A 2003 survey in California found that, among non-English–speaking patients who did not have a doctor who spoke their native language, a majority (56%) did not rely on interpreters but rather did the best they could in English (52). Only 9% of patients had professional interpreters, 15% used ad hoc interpreters, and 19% were dependent on family members or friends for translation.

The ideal solution for a patient with LEP is a language-concordant encounter, which results in better communication, interpersonal processes, and health outcomes when compared with those of language-discordant encounters. Bilingual providers who can speak directly to patients with LEP tend to develop better rapport (50). A study of Spanish-speaking patients showed that those who saw bilingual physicians asked more questions and had greater information recall regarding their diagnosis, treatment options, and recommendations compared with that of Spanish-speaking patients who saw monolingual (English-speaking) physicians (53). Compared with language-concordant encounters, patients communicating through an interpreter rated their providers as less friendly, less respectful, less concerned for them as a person, and less likely to make them feel comfortable (54).

The limited supply of bilingual providers has led health care organizations to use interpreter services to bridge language gaps. However, it is important to distinguish between professional and ad hoc interpreters. Several studies have found communication problems with the use of ad hoc interpreters. Although such interpreters are bilingual, they are not formally trained as interpreters and may lack the appropriate knowledge of health-related terminology. As a result, patients may receive insufficient information about potential side effects and be less satisfied generally with their care (55,56). One study showed that translation errors occur frequently when untrained nurse interpreters were used, and errors committed by ad hoc interpreters were more likely to be errors of clinical significance (57).

Relaying medical information can be burdensome on family members or friends, especially children, and may lead to patient dependency and passivity (58). Nevertheless, there may be certain advantages to using adult family members as interpreters, including their ability to offer support, remember details, encourage adherence to treatment, and increase knowledge in the family (7).
Professional interpreter services may be in-person or remote, and there is wide variation in their quality. Ideally, interpreters should be proficient in both languages and have a mastery of medical terminology, the ability to negotiate a three-way conversation, and basic knowledge of cultural aspects that can influence health. The National Council on Interpreting in Health Care in the United States recommends at least 40 hours of instruction on medical terminology, interpreting skills, ethical issues, role playing, and cultural awareness, and a certifying examination is offered (59).

Interpretation and translation services are required for all health care organizations that receive U.S. federal funding (60). However, all health care organizations, regardless of funding source, should strive to meet patients’ language needs to provide comprehensive and culturally appropriate care. When using an interpreter in the care of a non–English-speaking patient, there are several guidelines that must be considered, which are outlined in Table 2 (61).

Consent, Coercion, and Compliance
Informed consent is a crucial part of preprocedure planning, and the essential components involved in the informed consent process are listed in Table 3. If a patient cannot provide consent, a health care proxy or surrogate decision maker may be used. Only in a life-threatening medical emergency is it acceptable to perform an image-guided procedure without informed patient consent. If such a situation arises at our institution, the requesting attending physician must document in the medical record the emergent need for an interventional procedure.

Restrainted Patients
Patients may be physically restrained to ensure their own safety or the safety of the health care staff. In the imaging suite, the request for restraint removal should be made only when medically necessary for diagnostic imaging or interventional procedures. Fabric or plastic restraints could be used when MRI or CT is performed to ensure compatibility and minimize imaging artifacts.

Imaging Patients Who Are Incarcerated
When imaging patients who are incarcerated, it is important to consider the safety of staff and other patients, in addition to addressing the patient’s needs. Always keep a security-minded focus and set boundaries to help promote safety. Communication and logistical coordination are necessary before, during, and after an imaging examination or image-guided procedure to deliver the highest quality care. It is essential to ensure that the patient always remains within sight of the guard. Removing shackles, restraints, or global positioning system devices should be performed only when medically necessary and directly coordinated with the guard. In addition, appropriate information and education should be provided to the patient or the surrogate, especially regarding postprocedure care.

As a medical professional, it is inappropriate to inquire why the patient is incarcerated or to socialize with the patient (62). Furthermore, members of the radiology care team should not acknowledge to others that the patient is present in the department, and they should never share information about future appointments directly with the patient.

**Table 2: Guidelines for Using an Interpreter in Patient Communication**

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<tr>
<td>Never have a minor interpret for a patient, except in a life-threatening medical emergency.</td>
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<tr>
<td>Never have a patient’s adult family member or friend interpret unless (a) there is an emergency situation in which no other interpretation option exists or (b) it is at the patient’s specific request.</td>
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<tr>
<td>Avoid using bilingual/multilingual staff to interpret, unless they are officially qualified interpreters.</td>
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<tr>
<td>Always ensure appropriate positioning of the patient to promote communication between the health care provider, the interpreter, and the patient. This is of particular importance when communicating with sign language.</td>
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<td>If the patient declines to obtain an interpreter, the health care provider may request the presence and assistance of an interpreter.</td>
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**Table 3: Components of the Informed Consent Process to Review with a Patient**

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<th>Components of the Informed Consent Process to Review with a Patient</th>
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<tr>
<td>Review the nature of the patient’s condition</td>
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<tr>
<td>Summarize the proposed procedure</td>
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<tr>
<td>Discuss the benefit(s) of the procedure</td>
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<tr>
<td>Describe alternative(s) to the procedure</td>
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<tr>
<td>Inform the patient of significant risks involved</td>
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<tr>
<td>Discuss what may happen if the procedure is not performed</td>
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In general, patients who are incarcerated retain their right to privacy and autonomous decision making regarding care and consent. However, if the patient has capacity and is refusing life-saving care, guidance from the hospital’s legal department may be necessary. If the patient does not have capacity and is in a life-threatening emergency, treatment should be provided, as previously described.

**Imaging an Unconscious Patient**

Imaging patients with decreased consciousness presents a unique challenge. This includes patients who may be in a medically induced coma, who are reacting to medication overdose, or who may have locked-in syndrome. It is essential that health care providers make no assumptions when imaging such patients. Despite appearances and responsiveness, some patients may be fully conscious and aware of their surroundings. Whenever possible, interactions with an unconscious patient should be indistinguishable from those with a conscious patient. For example, the patient should be addressed by name and the same verbal instructions and explanations should be provided during an imaging study or image-guided procedure.

**Verbal De-escalation with Aggressive Patients**

It is possible that patients who have abused alcohol or used illicit drugs may become agitated, aggressive, or violent while in the radiology department. As our workforce becomes increasingly diverse, verbally abusive comments made by agitated patients may include racist, homophobic, or Islamophobic remarks. These are challenging situations to manage, and one is often at a loss for how to respond. Below is a scripted response that we have found to be a very helpful addition to our diversity toolkit:

> At our institution, we welcome and embrace all people. I am going to ask that you refrain from comments like the one that you just made, as it is hurtful and not in keeping with the way that we treat people here.

Verbal de-escalation techniques also may be helpful in dealing with an agitated patient and to help avoid aggression, verbal abuse, or violence toward health care workers. The ten domains of de-escalation have been previously described by Richmond et al (63) and include respecting personal space, avoiding provocative statements or gestures, and listening to the patient.

**Implementing Patient-centered Care and Cultural Competency**

The acquisition of knowledge and experience is an ongoing practice that is necessary to provide effective and appropriate care that is culturally responsive. All members of the radiology department should be provided with opportunities to cultivate these essential skills and gain this knowledge. The radiology department should strive to employ a diverse team of providers, mimicking the diversity of the patient population, a strategy that has been shown to increase patient satisfaction and compliance and improve outcomes (64,65).

In addition, leaders in a radiology department should designate a task force of interested and invested physicians, nurses, technologists, and administrative staff to identify specific barriers in place at each step of the patient’s journey in the radiology department, engaging colleagues in efforts to minimize these barriers. Academic institutions should involve trainees by actively incorporating skill-building sessions and training modules into the noninterpretive curriculum. All department members should be encouraged to contribute their experience and knowledge to an online database or electronic compendium of information regarding specific relevant patient populations frequently encountered in the care process.

On a national level, the inclusion of patient-centered care and clinical and socioeconomic research in the American College of Radiology’s Imaging 3.0 initiatives and the Radiological Society of North America’s Radiology Cares campaign emphasizes the need for the radiologist and all members of the radiology care team to provide individualized care for all patients to enhance the patient experience (66,67).

**Conclusion**

For health care providers, it is essential to understand and embrace the unique characteristics and differences of patients to deliver the most effective care. This article illustrates a portion of the spectrum of knowledge that health care providers should have when interacting with and providing care to diverse, marginalized, and vulnerable patients. Acquisition of knowledge and experience is an ongoing practice that is necessary to ensure that radiologists are providing effective and appropriate patient care.

**References**


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