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RADPED: an approach to teaching communication skills to radiology residents

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Abstract Background: The Accreditation Council for Graduate Medical Education mandates that radiology residency programs teach communication skills to residents. **Objective:** The purpose of this paper is to present a mnemonic, RADPED, that can be used to enhance communication in the radiology setting. It reminds the resident of the salient points to address during an imaging encounter with pediatric patients and their families for the purpose of enhancing communication. **Materials and methods:** Recent history and research in medical communication are reviewed. Various communication guides used by primary care physicians, such as SEGUE, and the Kalamazoo consensus statement are discussed. This methodology was adapted into a format that could be used to teach communication skills to radiology residents in the context of an imaging encounter. **Results:** RADPED reminds the resident to *establish rapport* with the patient, *ask questions* as to why the patient and family are presenting for the

study, *discuss the exam, perform the procedure, use exam distractions, and discuss the results* with the referring physician and family when appropriate. This guide is available with movie clips as part of an on-line pediatric radiology curriculum, <http://www.pediatricradiology.clevelandclinic.org>. **Summary:** This simple memory aid promotes the key points necessary to optimize the radiology resident's encounter with pediatric patients and their families.

Keywords Communication skills · Education · Resident · Pediatric radiology training

Introduction

"I sometimes feel that I am trying to overcome an educational environment that emphasizes minutia... Will I find myself providing care that focuses on minute details and ignores the person?" Jennifer Summer, medical student [1]

What communication skills are and why physicians need them

Communication is complex. It may include written content (and verbal and non-verbal cues), it has cultural and contextual meaning and value, and is the heart of the physician–patient interaction. The Association of

American Medical Colleges' Medical School Objectives Project describes medical communication as "a transactional process in which messages are filtered through the perceptions, emotions and experiences of those involved ... occurs at several levels, including intrapersonal (e.g., patients' personal constructions of the illness experience), interpersonal, group, organizational, mass and technological ... communication can be oral, written, or computer mediated" [2]. What used to be considered the art of medicine has evolved into a field of science that can be taught [3]. In the early 1960s, Dr. Barbara Korsch, a pediatrician, was among the first to require that work detailing the physician-patient communication be grounded in research and linked to outcomes, both functional and biological. In the book *Teaching and Learning Communication Skills in Medicine*, Dr. Suzanne Kurtz et al. [4] argue that physicians perform 200,000 consultations in their professional lifetime and, therefore, should be taught to optimize their communication skills.

For physicians, communication skills are necessary to identify patients' complaints and concerns when they present for imaging. Fifty-four percent of patients' complaints and 45% of their concerns are not elicited at the time of a physician-patient encounter in the primary care setting [5]. In addition, when physicians use a doctor-centered approach for retrieving patient information rather than a patient-centered approach, incorrect hypotheses and inaccurate consultations can result [6]. Symptom resolution and improved physiologic outcome have been well documented when patients have an opportunity to discuss their health care concerns.

Lack of communication skills can result in malpractice litigation. In one study, 70% of all malpractice suits in one series were believed to stem from poor communication. Reasons for the lawsuits included: "deserting the patient, devaluing patients' views, delivering information poorly and failing to understand patients' perspectives" [7]. Thus, good communication is an excellent guard against malpractice claims.

The notion that communication in medicine is a luxury can no longer be afforded. Communication is now an essential skill that can be taught [8].

Dancing with two partners

"Pediatric visits are particularly challenging in requiring that the physician engage in a dance with not one but at least two partners: parent and child—and the physician must be able to lead at times and follow at others" [9].

Pediatric radiologists are further challenged in that there are two patients—the child and the parent [10]—in what is called a triadic relationship [11]. Numerous psychological studies have demonstrated that a parent's anxiety about a child's study, that parent's disciplinary

style and the parent-child interaction during the medical procedure affect that child's ability to cope with the procedure. In addition, a longitudinal study by Tates and Meeuwesen [11] highlights the inherent asymmetry in the doctor-pediatric patient relationship. The doctor is not only an adult but also has superior knowledge compared to the child. A child can feel intimidated unless the physician takes care to include the child in his or her health care. In addition, in an observational study where interactions between the child, parent, and doctor were tabulated, the child's involvement in the examination process (a well-child physical by a pediatrician) was only 9% and did not change during the 18 years of the study. The study also found that parents had difficulty adjusting to their child's advancing age. Parents wished to exert the same amount of control over their child's medical information and study regardless of the child's age [11].

Materials and methods

In 1999, the Accreditation Council for Graduate Medical Education developed sweeping reforms that have dramatically altered graduate medical education for radiology residents. Radiology residency programs were mandated to teach "The General Competencies." This consisted of six topics, including medical knowledge, professionalism, patient care, practice-based learning and improvement, systems-based practice, and interpersonal and communication skills [12].

Although many programs were adept at teaching medical knowledge, the other five competencies were more variably taught from institution to institution. This presented a challenge to radiology program directors, who had to comply with the mandate but whose faculty sometimes lacked the training and resources to satisfy this requirement.

During this same time, the Association of American Medical Colleges (AAMC) issued a report titled the Medical School Objectives Project (MSOP). This report "set forth 30 program learning objectives that represented a consensus within the medical education community on the knowledge, skills and attitudes that students should possess prior to graduation from medical school" [2]. It required that medical schools ensure that graduates in their program possessed the "the ability to communicate effectively, both orally and in writing, with patients, patients' families, colleagues and others with whom the physician must exchange information in carrying out their responsibilities" [2]. The AAMC recognized the challenge of incorporating the subject of patient communication and commissioned a white paper from an expert in the field of communication in medicine, Dr. Gregory Makoul. This paper highlighted the SEGUE framework for teaching and

evaluating communication in medical encounters. SEGUE is an acronym for skills needed to set the stage, elicit information, give information, understand the patient, and end the encounter [13]. In addition to medical schools and residency programs identifying patient-physician communication as an essential element of medical care, the American Board of Medical Specialties, the umbrella organization for specialty boards that certify physicians, made interpersonal and communication skills a core area of competency. This meant that a physician's maintenance of certification would have to include evaluation of communication skills. As Makoul stated, "The idea of communication as bedside manner or history taking has given way to a reconceptualization of communication as a measurable clinical skill" [14].

In May 1999, a meeting of leaders in communication from leading medical universities as well as professional health care organizations was held in Kalamazoo, Michigan, jointly sponsored by the Bayer Institute of Health Care Communication and the Fetzer Institute. The participants presented five popular models of research based on doctor-patient communication. The purpose of the conference was to delineate a set of essential elements that were common to all five of the models and could be used as a framework for communication curricula. This was called the Kalamazoo Consensus Statement. Seven essential communication tasks were identified, including: (1) build the doctor-patient relationship, (2) open the discussion, (3) gather information, (4) understand the patient's perspective, (5) share information, (6) reach an agreement on problems and plans, and (7) provide closure [15].

Results

One of the purposes of teaching communication to radiology residents as a fundamental clinical skill is so that residents can articulate specific goals and objectives for the radiology encounter. In addition, students are likely to derive the most benefit from communication skills instruction if it is tied to clinical practice [2]. Although the SEGUE Framework and the Kalamazoo Consensus Statement and the proposed radiology mnemonic RADPED include many overlapping communication tasks, further study of the 25 specific communication tasks from the SEGUE Framework make this guide less appropriate in the radiology setting. For example, under "Elicit Information," the trainee is asked to: "elicit the patient's view of health problems and/or progress, explore the physical/physiological factors, explore psychosocial/emotional factors, discuss how the health problem affects the patient's life and discuss lifestyle issues/prevention strategies," to list a few [2]. Clearly, the intent of this part of the framework is for a physician in the primary setting. The goal of the

RADPED mnemonic is to build upon and modify these works for the radiology setting. Another reason for modifying existing communication guides relates to the length of the actual imaging encounter. Even though a radiology study, such as small-bowel series or MRI scan, can last more than 30 min, the actual radiologist-patient interaction is brief. If we make the entire encounter as positive and directed as possible, the goal of the visit might be more readily accomplished, and the patient and family might feel more comfortable despite the short amount of "face time" with the doctor. The Kalamazoo Consensus Statement is also inappropriate for the radiologist. One of the seven essential sets of communication tasks is "understand the patient's perspective," share information, and reach an agreement on problems and plans" [15]. These are essential elements for communication by the pediatrician or internist but beyond the scope of the radiologist-patient encounter. Such inadequacies in existing models prompted the development of the RADPED communication tool. The following is a mnemonic that can be used to recall the steps in forming a radiologist-pediatric patient strategic alliance (RADPED).

R: Rapport Build trust and rapport by clearly introducing yourself and your role in the study. Take a few minutes to talk to the child and family about topics that are non-threatening and unrelated to the imaging. One of the best ways to establish rapport is to recognize and overtly respond to the emotions of the patient and parent. In radiology, these emotions may include fear, anxiety, and dread of the procedure and possible negative diagnostic outcomes. You can respond to emotions using PEARLS: Partnership, Empathy, Apology, Respect, Legitimization, and Support [16].

To show partnership, you can suggest joint problem-solving: "Let's see if we can work together to make this quick and painless." Show empathy by expressing understanding of emotions, and put feelings into words: "I know it is scary to be having a test." You can reduce anger with an apology: "I am sorry you have waited so long" or "I'm sorry you are worried about all of this testing." Show respect for the patient's efforts: "You are being so brave" or "I know you are working hard to do this right." Legitimization normalizes and validates a person's feelings: "Most people feel worried when they have their first MRI." Offer support to your patient and parent: "I will try and answer all of your questions and work with you to make this as quick and as painless as possible." When the patient and parent feel alliance, safety, and trust, they will be able to cope better with the stresses of the radiological testing.

A: Ask Ask for information from the child/family. Ask them for their understanding of the medical problem and for their understanding of the test that is about to

take place. Ask about the reason for this particular visit. Clarify any outstanding concerns.

Ask how the parent and child are feeling about the diagnosis or procedure.

Acknowledge these feelings (expressed as well as unexpressed), and reassure the child and parent that it will be OK. (See above under "Rapport.")

D: Discuss Discuss the exam. Let the child and parent know the agenda for the visit—what the name of the test is, what it will involve (drinking contrast, an injection), and the length of the test. Letting a teenage girl or the mother of a girl being examined know that radiation may be involved and finding out the date of the girl's last menstrual period is appropriate at this point in the study. This ensures that no woman of child-bearing age is radiated without the discussion of possible pregnancy. Demonstrating your knowledge of the patient's medical history is reassuring to the family. "I see that Mathew had the same test here in August 2004 and that it was normal."

P: Perform the procedure Tell the child again what you are about to do. Use simple directions (e.g., "Turn toward me").

E: Exam distraction techniques (mobiles, music, toys, suckers, bottles, pacifiers during the exam) Use rewards such as stickers and small toys. Parents could bring an unwrapped toy as a surprise. Involve the child and parents in the exam. Allow the child to have control over portions of the exam that do not interfere with the medical information (i.e., "Let me know when you want to go to the bathroom" or "Do you want your socks on or off?"). Talk about hobbies and other interests with older children.

D: Discuss Discuss results when appropriate. When an exam is normal and has been reviewed with staff, tell the parents and child (depending on developmental level) before they leave. During the exam, if the examination is looking normal, it is helpful to make the child and parents aware. "This is your stomach and it looks just the way it is supposed to look." Making the parents wait several days for results is emotionally difficult. Referring physicians appreciate when patients are informed quickly because it decreases the number of anxious phone calls to their office. If the exam requires further review, inform the parent. "I have more than 100 images to look at and also need to compare these findings to the prior CT scan. The results will be available tomorrow morning." This gives the parents a specific time-frame within which to expect results and eases the fear that an abnormality was seen but not verbalized.

If an abnormality is identified, writing out the name of the abnormality (e.g., "pyloric stenosis") might help the parents feel more in command of a fearful situation.

Drawing a simple diagram of the finding often alleviates worry. It also gives them the tools to supply an accurate medical history during future health care visits.

If there is a new catastrophic finding on the study (e.g., incidental Wilms' tumor on a child sent in for constipation) and parents want the results immediately, it is best to politely excuse yourself, leave the room, and quietly phone the referring physician and ask his or her recommendation on how to convey the information to the parent. Often the referring physician is not available in person, and sending the child home would delay further work-up or treatment. The referring physician might speak to the family on the phone and indicate there is a problem that needs to be investigated and arrange for an expeditious follow-up visit. The radiologist would be able to continue the discussion as to the imaging findings, if appropriate. Further consultations or testing could be expedited with this approach.

The radiologist is often asked questions regarding treatment of a newly diagnosed condition. It is appropriate to say, "I know you have many questions about possible treatment of the condition we found in your child. I am the specialist who takes care of the pictures or imaging. That is why you are going to see Dr. Brown next. He is the specialist that can help answer those questions. I would not want to give you incorrect information." Make sure the child and parents know when and where to go for their next appointment.

This guide is available as part of an on-line pediatric radiology curriculum, <http://www.pediatricradiology.clevelandclinic.org> [17]. The on-line module contains downloadable movie files with examples of each stage of the RADPED mnemonic.

Discussion

Radiologist–patient encounter

There were two reasons for developing a communication model specifically geared toward the radiologist and the pediatric patient. First, review of many of the models used to teach communication skills demonstrated elements of a physician–patient communication that are most appropriate for the primary care physician, as highlighted by the Kalamazoo Consensus Statement [15]. Review of these elements, such as "create and sustain a therapeutic relationship," promotes a trusting partnership between the patient and physician over time, a relationship that often does not exist in the radiologist–patient encounter. Consultation for imaging is often brief and problem-centered. In the imaging suite, there is a serious and often immediate intimacy to the radiologist–patient relationship. Furthermore, this relationship is often a one-time occurrence or rarely intermittent over long time periods (such as the yearly VCU follow-up for

vesicoureteral reflux). The RADPED communication tool is a simple tool that can be used by residents to remember the salient points of the physician–patient encounter in the radiology department during these intermittent encounters.

Practical guidelines for the pediatric radiologist–child–parent encounter

The following comments are further suggestions for providing a positive experience in the radiology department. It has been shown that a quiet medical environment with calm, confident personnel can have a positive and powerful effect on the quality of a medical hospitalization. In one study involving an adult psychiatric ward, the authors found that “the merging of ‘user friendly’ architectural and environmental design components that create a healing environment ... can provide an important and effective tool ... in the reduction of severe psychopathology” [18]. In addition, Dr. Sandra Gold of the Gold Foundation, a leading philanthropic organization focused on humanism in medicine, states: “We have found many, many hospitals that are very welcoming and patient-centered.” Dr. Arnold Gold stated: “Whether it comes from the person in the parking lot, the individual who supplies maintenance in the hospital, the nurse or the physician, all must work as a team to enhance the quality of care given to the patient” [19]. Thus, it appears that a patient-centered relationship between physician and patient can be further enhanced by a patient-centered environment.

The following are suggestions for creating a patient-centered environment. These guidelines are provided for discussion; each institution can determine which guidelines to incorporate.

A respectful and child-friendly environment begins with the physical environment. The receptionist should be professional and pleasant. There should be books, toys, child-appropriate television programming, and computer games in the waiting area to provide distractions before the procedure. (There are services that provide rotating, disinfected toys for patient play.) It is helpful to make available informational posters, pamphlets, and educational books on imaging studies the child might encounter. Personnel, such as technologists and nurses involved with the study, should wear easily read identification badges and should introduce themselves to the child directly and to the parent and clearly state their role in the study. Clothing, appearance, and demeanor should be professional at all times, with gum-chewing and inappropriate language avoided. Patient confidentiality must be respected. Getting a history, discussing the examination, or giving an exam result in a busy waiting room or hallway is inappropriate. When in the exam room, safety and comfort are paramount. All

syringes and dangerous material should be locked and out of reach. Toys and books and clean equipment are welcoming. A comfortable temperature, mattress on the fluoroscopy table, and lead shielding on the table all make the study physically easier and safer. Various-size gowns, pajamas, and robes to protect patient privacy, especially in the adolescent years, are important.

When the pediatric radiologist enters the exam room, he or she should greet the child and parents by name with a warm smile. The pediatric radiologist should clearly state to the child his or her name and role in the procedure. “Hello, Brittany! I’m Dr. Jack Smith, the staff doctor who will be taking care of you for this test.” The pediatric radiologist should take a few minutes to focus on the child and not the examination. This sends important signals to the family that the doctor is interested in the child and not only the exam [20]. If the radiologist knows the family or has social connections (e.g., lives in the same town, knows family members), it is important that he or she emphasize that the visit and result of the test are totally confidential.

Rushing into the exam sends signals that the radiologist does not welcome the parents’ and child’s expressions of concern. However, an effective encounter need not take hours. Studies have shown that there is no significant relationship between the amount of time of a primary care visit and patient satisfaction. Taking time to discuss the family’s concern actually makes the exam more efficient [21].

The actual phrases and body language used during the visit are most important. Marino and Kohen [22] emphasize how small changes in word selection with children can produce dramatic shifts in patient behaviors during medical encounters. The words we use with children have a definite effect on the outcome of the study. It is important to consider a child’s cognitive developmental level, noting that young children are naturally concrete thinkers. When a doctor tells a young child that he is going to fill her bladder like a balloon, the child might assume her bladder will pop. Clearly, the doctor was trying to use a frame of reference the child might understand, yet in this case, it can make the child more distressed. If a syringe is going to be used to draw up medication and not for an injection, it is helpful to explain that there will be no “ouchie” or injection. Informing parents and the child that the iodine-based soap used for prepping the patient might make the sterile towel look red and that this is not blood is very helpful and eliminates this misperception. Thoughtful wording to patients is most important.

In addition, it is best to address the child directly during the discussion of the test. Giving procedural and sensory information as to what the child might feel is most helpful. Suls and Wan [23] found in a 1989 meta-analysis of the literature that a combination of procedural information and a description of the feelings and sensations patients might experience resulted in

significant improvement on measures of affect, pain, and general distress over procedural information alone. Allowing the child to have control of portions of the exam that do not interfere with the study is important. Tarnowski et al. [24] found that a young burn victim showed fewer distress behaviors when the child conducted portions of his own wound debridement. They speculated that lower distress levels might have been a result of the fact that he was distracted from his pain by the act of debriding, or that by being in control he was able to modulate his pain and physiological arousal. The downside to this is that at termination of the intervention, there appears to be an increase in patient distress [24].

In conclusion, the relationship a radiologist has with children and teens who are undergoing imaging tests is different from that of the primary care specialist, psychologist, or surgeon. Yet, many of the studies borrowed from these fields that use a patient-centered approach are relevant to interactions in the radiology setting. Use of practical tips and the mnemonic RADPED can aid the radiology resident in working with children and adolescents and provide tools for this interaction.

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