Breast-feeding is best!

We all know this to be true, but what methods have been proven to increase the likelihood that a mother will indeed breast-feed? Is it enough to discuss the decrease in infections, allergies, and sudden infant death syndrome that is associated with breast-feeding? Or the lower likelihood of type 2 diabetes, asthma, obesity, and childhood leukemia? What about the benefits to mom—a lower risk of developing breast cancer, ovarian cancer, and type 2 diabetes?

The US Preventive Services Task Force (USPSTF) has recently released an update to its previous guideline regarding breast-feeding promotion answering the questions I have raised. The recommendations are grade B, thus it is something we should be doing. They also have prepared a brief patient education handout. Basically, there is no harm to counseling pregnant women regarding breast-feeding unless they are infected with HIV. Also, in situations where breast milk may be harmful, eg, certain inborn errors of metabolism, postpartum counseling is not appropriate. The likelihood that counseling results in breast-feeding increases with the number of times breast-feeding is discussed with the patient. This (continued on page 2)

Information Technology and Teaching in the Office

Teaching About the Patient-centered Medical Home Using Video

By Thomas Agresta, MD, University of Connecticut

As educators we are being asked to teach our learners about a new (and just emerging) model of primary care. Yet, we are also floundering around in the dark, trying to figure out exactly how we get to that Promised Land ourselves. So how can we use technology to both educate and simultaneously learn from our students and residents about the concepts, values, ideas, or processes that are related to the patient-centered medical home (PCMH)? Video clips can be of great value in providing not only a picture but concrete examples of why this transition is important, what it actually means to patients, families, and providers and some ideas of how it can be implemented. Some video clips are already on the Internet, and others are waiting to be made. You can put them on your own department’s Web site or link to them from your site.

Perhaps developing either a formal or informal curricular program focused on the PCMHs is something that every medical school and academic department of family medicine should do. But, equally important is the support and reinforcement that this concept receives in the clinical practice sites that our students experience in private offices, residency sites, and even in their specialty training settings. There are many potential methods that should be used to educate our learners about these principles. One method that could be shared between these settings, however, is the use of Internet-based videos that demonstrate the following elements of this concept: (1) rationale for change and specifically for the medical home, (2) core concepts of the medical home, (3) concrete examples of elements of the medical home, and (4) demonstration of some of the processes that are promoted as best practice.

There are already a number of these video resources freely available on the Internet (See Table 1). It is reasonable to assume that there will be a significant increase of high-quality additions (continued on page 3)

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means that we should be utilizing every opportunity to counsel women at prenatal visits or when they meet with us prior to delivery. Also discussing breast-feeding in the time surrounding delivery and in the immediate postpartum period and after breast-feeding is established increases the likelihood that the mother will stick with it.1

Offering a supportive environment in the office, hospital, and community can aid in successful breast-feeding. The presence of trained lactation consultants observing breast-feeding is another technique that may increase breast-feeding success; involving the family in the education process and peers in the counseling also lead to success.

In the outpatient setting, establishing a breast-feeding-friendly office is recommended by the Academy of Breastfeeding Medicine. The guideline recommends setting an office policy and educating office staff to encourage breast-feeding exclusively and not use bottles or pacifiers until milk is fully established. They also recommend offering support in all languages your office caters to, including translator services and multilingual patient education resources. Supporting breast-feeding in the office antenatally and utilizing breast-feeding-friendly hospitals and services in the community are important as well.1

Breastfeeding-friendly offices also should utilize external resources to support breast-feeding, such as working with daycare providers to support breast-feeding, encouraging insurance companies to pay for breast pumps and maintaining a list of breast-feeding support in the community. The office should also have triage protocols in place to assist with breast-feeding difficulties and encourage continued breast-feeding. Finally, promoting breast-feeding in the office by not interrupting breast-feeding, having frequent visits in the early postpartum period to offer support and breast-feeding assistance, praising mothers for breast-feeding, and having a lactation room for employees are the remaining major components to a breast-feeding-friendly office.

As we know, breast-feeding is best, and we can go a long way to making the environment supportive for mothers and successfully counseling pregnant women to consider breast-feeding.

References


Caryl Heaton, DO, UMDNJ-New Jersey Medical School, Editor
Diana Heiman, MD, University of Connecticut, Co-Editor
Teaching About the PCMH Using Video

to these published in the coming months and years. I can envision several strategies for incorporating these videos into different teaching situations.

Learners can be encouraged to independently view these videos and report back to you regarding what they learned. They can then be used as a "trigger tape" for group discussions during a Family Medicine Interest Group discussion or as part of a Family Medicine Rotation Orientation.

Learners can be encouraged to think about changes they might suggest as part of working in office-based practices (help you brainstorm about what you can do better within your office).

They can be used for models for you to develop your own video demonstrating your implementation ideas and strategies.

How about setting up a series of video examples that are organized in an electronic format? (It can be as simple as a Word or PDF document with URLs to a completely organized Web-based curriculum that is stored on a curriculum management system.)

As educators we should actively engage our learners in helping us move toward a PCMH in a way that hopefully stimulates their interest in practicing in such an environment when they graduate. Hearing directly from both experts and actual providers about the virtues, challenges, and opportunities inherent in the process of change can make it more "real." What is even better is that you can do this quickly and with little effort yourself. Have fun, experiment, and even post your success stories and challenges on the Family Medicine Digital Resources Library (www.fmdrl.org).

Richard Usatine, MD, University of Texas Health Science Center at San Antonio, Editor

Thomas Agresta, MD, University of Connecticut, Coeditor

Table 1

Examples of Internet Video Sites for Patient-centered Medical Homes

<table>
<thead>
<tr>
<th>Major Topic</th>
<th>Comments/Sponsor</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of Primary Care</td>
<td>Patient-centered Primary Care Collaborative—Barbara Starfield</td>
<td><a href="http://www.pcpcc.net/content/primary-care-video-presentation-dr-barbara-starfield">http://www.pcpcc.net/content/primary-care-video-presentation-dr-barbara-starfield</a></td>
</tr>
<tr>
<td>Overview of the Medical Home</td>
<td>Good use of patient examples of what medical homes can mean—Wisconsin Academy of Family Physicians</td>
<td><a href="http://wafp.org/VideoPCMH/index.html">http://wafp.org/VideoPCMH/index.html</a></td>
</tr>
<tr>
<td>Series of Resident Teaching Slides</td>
<td>PowerPoint slides and some embedded videos about many aspects of medical homes—Illinois family physicians</td>
<td><a href="http://internet.dscc.uic.edu/medhome/mdprimer/MHPHysicianPrimer.asp?resident">http://internet.dscc.uic.edu/medhome/mdprimer/MHPHysicianPrimer.asp?resident</a></td>
</tr>
<tr>
<td>News Interview</td>
<td>Comcast News interview of physicians regarding medical homes—You Tube</td>
<td><a href="http://www.youtube.com/watch?v=OxRNZnZKU70&amp;feature=related">http://www.youtube.com/watch?v=OxRNZnZKU70&amp;feature=related</a></td>
</tr>
<tr>
<td>Front Office Improved Registration</td>
<td>Demonstrates how asking questions differently on registration promotes better care coordination—Illinois Academy of Family Physicians Web site</td>
<td><a href="http://internet.dscc.uic.edu/medhome/mdprimer/QITChanges/index.html">http://internet.dscc.uic.edu/medhome/mdprimer/QITChanges/index.html</a></td>
</tr>
<tr>
<td>Example of Medical Huddle</td>
<td>You Tube video shows how physician and front office staff can use technology to plan for a complex day</td>
<td><a href="http://www.youtube.com/watch?v=Wtxx7jAml4d&amp;feature=related">http://www.youtube.com/watch?v=Wtxx7jAml4d&amp;feature=related</a></td>
</tr>
<tr>
<td>Medical Homes in ADHD</td>
<td>Funny example of how changing to medical home is like changing a tire while riding a bike</td>
<td><a href="http://realmedia.uic.edu/ramgen/depts/hsc/dscc/medhome/ADHDBike.rm">http://realmedia.uic.edu/ramgen/depts/hsc/dscc/medhome/ADHDBike.rm</a></td>
</tr>
<tr>
<td>Diabetes Outcomes</td>
<td>You Tube video—Shows outcomes from using principles for care of diabetic patients—Health Intelligence Network</td>
<td><a href="http://www.youtube.com/watch?v=mvig2oP4RFAR&amp;feature=related">http://www.youtube.com/watch?v=mvig2oP4RFAR&amp;feature=related</a></td>
</tr>
</tbody>
</table>
Teaching Points— A 2-minute Mini-lecture

The Mouth Is More Than Just Teeth

By Wanda C. Gonsalves, MD, Medical University of South Carolina

Editor’s Note: The process of the 2-minute Mini-lecture is to get a commitment, probe for supporting evidence, reinforce what was right, correct any mistakes, and teach general rules. In this scenario, Dr Gonsalves (Dr G) works with a third-year student (MS3) who has seen a woman with poor dentition.

MS3: I just saw a patient of yours, Mrs Sawyer. She is a 67-year-old woman with diabetes, hypertension, hyperlipidemia—here for these problems. She also may have had a heart attack that was silent in the past, because that’s what your last note says. She had an abnormal ECG but never remembered having chest pain.

Dr G: Right. I remember that.

MS3: So she’s here today because of follow-up for those problems. Her A1c is less than 7; it was 6.6 recently. Her LDL cholesterol was 67. Her sugars run pretty good at home. Blood pressure is fine, below 130 over 80. She’s exercising at least a half hour every day. Eating well. Medications are fine—taking them well and no bad side effects.

Dr G: What else is important to check?

MS3: You mean, like health promotion or screening things?

Dr G: Right. Sure.

MS3: Well, the chart says she’s up to date on colonoscopy, immunizations, and PAP smear. I think that’s it, isn’t it?

Dr G: You really have a great fund of knowledge. Well, there’s one more thing to consider, something physicians can tend to ignore. I’m thinking of the mouth. (MS3 shrugs.) I’m thinking of her gingiva, or gums, and her teeth.

MS3: She has dentures on top. The bottom teeth look kind of rough.

Dr G: So why do I ask about the mouth?

MS3: Because you were a hygienist before you went to medical school?

Dr G: Very funny. Yes. And no. If she has poor oral hygiene, then what can happen?

MS3: She couldn’t eat very well?

Dr G: Right. So teeth need to function well to ensure good nutrition.

MS3: What if she’s not having any pain, and she is eating OK? I’m not sure what I’m paying attention to. Is there any other reason to pay attention to the teeth, I mean—to her oral hygiene?

Dr G: Excellent question. There’s some evidence that periodontal disease is connected to chronic inflammation, and chronic inflammation is connected to risk of coronary heart disease. There was a recent meta-analysis looking at this issue that found that the relative risk was somewhere around 1.30.1 Do you remember what that kind of risk means, in natural English?

MS3: I think it means a 30% increase in risk.

Dr G: Exactly. Now, is that important?

MS3: 30%? Is 30% important? Well, I guess it depends on how severe the condition is?

Dr G: So heart disease is serious? (MS3 nods.) Anything else that tells us about the importance of relative risk?

MS3: Sorry, I can’t think of anything.

Dr G: No, that’s fine. How about the prevalence of the condition?

MS3: Oh, OK. That’s right. So coronary disease is fairly common. And a 30% increased risk increase for such a common condition would then likely be important.

Dr G: Great.

MS3: But so what? I’m sorry; I didn’t mean it to sound like that. But, I’m just going to recommend flossing and brushing and send her to the dentist, right? Other than make sure that she is doing everything else to take care of her heart?

Dr G: What about her diabetes? The mouth is more than just healthy teeth. Periodontal disease in its mildest form, gingivitis, is a condition of inflammation of the gums that can also worsen her blood sugars. Of course, it goes the other way, too—her diabetes can worsen her periodontal disease.2 So, improving her oral hygiene will not only help her to maintain her teeth but also to improve her blood sugars or gum disease. So, next time you see someone like this— (MS3: Someone with a mouth, gums, teeth?)

Dr G: (smiles) Yes. Think of how the gingiva are connected to the heart, to conditions like diabetes, to your overall health.

REFERENCES


Alec Chessman, MD, Medical University of South Carolina, Editor
Evidence-based Answer

Patients using the leukotriene inhibitor montelukast require less frequent use of rescue medication than patients using the long-acting beta-agonist salmeterol. (SOR B, based on a single randomized controlled trial [RCT]). No studies have compared short-acting beta-agonists with either leukotriene inhibitors or long-acting beta-agonists.

An 8-week, double-blinded, double-dummy, multicenter RCT (n=191) compared the long-acting beta-agonist salmeterol with the leukotriene inhibitor montelukast as therapy for exercise-induced asthma among young adults with chronic asthma. Patients were randomized to receive inhaled salmeterol (50 μg given as two puffs twice daily) or montelukast (10 mg orally once daily in the evening). Measurements included changes in forced expiratory volume in 1 second (FEV1) post-exercise compared with pre-exercise, time to recovery after exercise, and maximal decrease in FEV1. The observations were made at 17 asthma treatment centers in the United States. Twenty-six percent of participants in the montelukast group used rescue medications (a short-acting beta-agonist inhaler) compared with 40% in the salmeterol group (P=.044). This study was funded by a manufacturer of montelukast.

A small (n=10), 5-week, double-blind, randomized controlled crossover trial evaluated the effects of salmeterol, montelukast, zafirlukast, zileuton, and placebo on treatment of exercise-induced asthma among young adults with chronic asthma. Each participant performed exercise while breathing cold, dry air 1, 4, 8, and 12 hours after receiving the test drug in a laboratory setting. Salmeterol increased the FEV1 by 13.3% in the first hour, montelukast increased FEV1 by 4% after 1 hour (and a maximum of 7% at 4 hours), while placebo, zileuton, and zafirlukast had no effect on FEV1. Salmeterol and montelukast provided a 70% reduction in bronchoconstriction, compared with a 57% reduction with zafirlukast and 52% reduction with zileuton. This study was funded by the National Heart, Lung, and Blood Institute and a general clinical research grant from the National Center for Research Resources of the National Institutes of Health.

Another small (n=16), 3-week RCT of young adults with chronic asthma and exercise-induced bronchoconstriction compared fish oil supplementation with placebo. The treatment group took 1,000 mg fish oil daily (containing 3.2 g of eicosapentaenoic acid and 2 g of docosahexaenoic acid) and maintained a strict diet. Fish oil supplementation was associated with attenuation of bronchoconstriction and reduced rescue medication utilization (45 puffs in fish oil group compared with 61 puffs for normal diet and 65 for the placebo diet, P<.05). The fish oil was not compared with any other medication.

References


SOR—strength of recommendation

LOE—level of evidence

Jon O. Neher, MD, University of Washington, Editor
POEMs for the Teaching Physician

Combination Antipyretics No Faster Than Ibuprofen But Longer Acting

**Clinical Question:** Is the combination of acetaminophen (paracetamol) and ibuprofen superior to either drug alone at decreasing fever and maintaining that reduction in children?

**Setting:** Outpatient (primary care)

**Study Design:** Randomized controlled trial (double-blinded)

**Funding:** Government

**Allocation:** Concealed

**Synopsis:** These investigators enrolled 156 children aged 6 months to 6 years at 35 primary care sites. The children were unwell and had a fever of at least 37.8 degrees Celsius but no more than 41.0 degrees and could be cared for at home. Children with dehydration were excluded. The children were randomly assigned (concealed allocation) to receive ibuprofen 10 mg per kg per dose every 8 hours, acetaminophen 15 mg per kg per dose every 6 hours, or the combination, for the first 24 hours and then in response to symptoms for another 24 hours. The first doses were given in the office upon enrollment. Matching placebo of the alternate drug was given to the children in the single-drug groups. Analysis was by intention to treat, meaning the children were analyzed in the group to which they were assigned, irrespective of whether they followed the advice for therapy. Over the first 24 hours, full dosing of acetaminophen occurred in 42% to 65% of children, and full dosing of ibuprofen occurred in 71% to 73% of children. The main outcome in this study was the length of time the children were without fever within the first 4 hours. Ibuprofen, either alone or with acetaminophen, produced more time without fever in the first 4 hours, an additional 55 minutes with the combination, and an extra 39 minutes with ibuprofen alone as compared with acetaminophen. This difference resulted from a 23-minute to 26-minute faster onset of fever reduction when ibuprofen was used, either alone or in combination with acetaminophen. Over the first 24 hours, children spent more time afebrile with the combination of drugs as compared with either drug alone: 20.3 hours as compared with 15.7 hours with acetaminophen alone, and 17.6 hours with ibuprofen alone.

**Bottom Line:** Ibuprofen has a faster antipyretic onset than acetaminophen in children, resulting in an afebrile child 23 minutes to 26 minutes faster. Adding acetaminophen does not reduce fever faster than ibuprofen alone. Over 24 hours, however, children receiving the combination spent an additional 2.5 hours to 4.4 hours without fever than those who used either drug alone. Even in the first 24 hours, adherence to dosing was better with the every-8-hour ibuprofen than with the every-6-hour acetaminophen. (LOE=1b)


Rosuvastatin Has No Effect on Clinical Outcomes in CHF

**Clinical Question:** Does rosuvastatin improve outcomes in patients with congestive heart failure?

**Setting:** Outpatient (specialty)

**Study Design:** Randomized controlled trial (double-blinded)

**Funding:** Industry

**Allocation:** Concealed

**Synopsis:** Adults with New York Heart Association class II or worse congestive heart failure were randomly assigned to receive rosuvastatin 10 mg daily (n=2,285) or placebo (n=2,289). Patients were evaluated at 1, 3, 6, and 12 months and then every 6 months thereafter. The researchers used intention-to-treat analysis to evaluate the outcomes that were assessed by members of the research team who were unaware of which treatment the patient received. The main outcomes of interest were death and hospital admission for cardiovascular reasons. After a median follow-up of 3.9 years, there was no significant difference in all-cause mortality (29% in patients treated with rosuvastatin, 28% in patients receiving placebo). There was also no difference in hospitalizations (56% in each group). After slicing and dicing the data, the authors were unable to find any differences in any other outcomes or in any subgroups. The study was powerful enough to detect small differences in event rates.

**Bottom Line:** Rosuvastatin (Crestor) was no better than placebo in decreasing death or cardiovascular hospitalizations in patients with congestive heart failure. (LOE=1b)

Most Endocarditis Prophylaxis No Longer Necessary: NICE Guideline

Clinical Question: Is prophylaxis necessary for patients with structural cardiac defects undergoing dental or other procedures?

Setting: Various (guideline)

Study Design: Practice guideline

Funding: Government

Synopsis: Recommendations for the prevention of infective endocarditis have been built on a lot of postulated mechanisms and wishful thinking with little evidence to back them up. Although endocarditis is rare, its morbidity and mortality rates are high, and the thought was to be safe rather than sorry. The risk of endocarditis, less than 10 per 100,000 per year, may even be less than the deaths associated with anaphylaxis to the antibiotics used to prevent it.

Citing low cost-effectiveness and the lack of proof of effectiveness of antibiotic prophylaxis, the National Institute for Health and Clinical Excellence (NICE) committee no longer recommends antibiotic prophylaxis for patients with structural cardiac defects undergoing dental procedures. Upper and lower gastrointestinal tract, genitourinary tract, and respiratory tract procedures do not require prophylaxis. Childbirth also does not require prophylaxis. In contrast, the American College of Cardiology/American Heart Association, in a recent update, states endocarditis prophylaxis is “reasonable”—a downgrade from “recommended”—for patients at highest risk for adverse outcomes. These patients will have a prosthetic cardiac valve, previous infective endocarditis, or congenital heart disease either unrepaired or repaired with prosthetic material. Routine dental care does not require prophylaxis, according to this group, unless the procedure involves manipulation of the gingiva or perforation of the oral mucosa. They no longer recommend prophylaxis for nondental procedures (Circulation 2008;118:887-96).

Bottom Line: The United Kingdom’s NICE recommends antibiotic prophylaxis not be given to adults or children with structural cardiac defects undergoing dental and nondental procedures. Chlorhexidine mouthwash is also not recommended. The nondental procedures that do not require prophylaxis include upper and lower gastrointestinal tract procedures; upper and lower respiratory tract procedures; and urologic, gynecologic, and obstetric procedures, including childbirth. These recommendations are more conservative than the latest American College of Cardiology/American Heart Association guidelines. (LOE=2b)


LOE—level of evidence. This is on a scale of 1a (best) to 5 (worst). 1b for an article about treatment is a well-designed randomized controlled trial with a narrow confidence interval.

Mark Ebell, MD, MS, Michigan State University, Editor

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Excerpted from “For the Office-based Teacher of Family Medicine”

Using the Five Microskills With Different Learning Preferences
by Nancy F. Barrett, EdD, and and Bharat Gopal, MD, Carle Foundation Hospital, Urbana, Ill.
(Fam Med 2008;40(8):543-5.)

In 1992, Neher et al first proposed the Five Microskills of Teaching as a structured approach for teaching clinical skills. Subsequent research has shown it to be an effective teaching tool, and the Society of Teachers of Family Medicine (STFM) now includes the Microskills model as a standard component in its Faculty Development Series.

As useful as the Five Microskills has proven to be, applying what we know about learning preferences may suggest ways to further enhance the efficacy of this model. Describing visual, auditory, and tactile learning preferences with their applicable teaching strategies allows us to suggest ways to adapt the Microskills model for different learners in the clinical arena.

Characteristics of Visual, Auditory, and Tactile Learners

Learning is a sensory process that involves a combination of seeing, hearing, and doing. Visual learners learn best by seeing. While they can easily imagine people, places, and documents, they may need to take copious notes and can sometimes have trouble concentrating in a noisy environment.

Auditory learners learn best by hearing. They prefer listening to tapes, would rather make an oral report as opposed to a written one, and are good at following verbal directions. Processing what they read can be difficult; however, repeating aloud what they read helps to reinforce the learning.

Tactile learners learn best by doing. They prefer doing projects to reports and often use their hands and gesture when talking. They can appear disorganized and they do not learn well if they must sit still.

While considerations of learning preferences have generally been used to help students become more successful learners, teachers can also use this knowledge to maximize learning in the clinical setting. The next section identifies ways that teachers can incorporate teaching strategies to address learner preferences.

Strategies to Facilitate Learning

For Visual Learners

Provide the learner a quiet workspace. Give learners the option of drawing the sequence of events via a flow chart or concept map. Medical algorithms are great examples of simple concept maps because they provide a visual representation of relationships. See www.aafp.org/afp/20000115/357.html#all04 for an example depicting the management of acne. Use charts, graphs, and tables while teaching to illustrate key points. Visual representation can help to organize and summarize material. Suggest that learners write down key points to enhance memory. Have learners use visual reinforcers such as www.medi-calmnemonics.com/cgi-bin/showpic.cfm?mnemonic_id=5, an illustration of lumbrical action.

For Auditory Learners

Suggest that they use mnemonics to remember concepts. Have learners read guidelines and references aloud to reinforce the learning. Suggest that learners form study groups to discuss what they have learned with their peers. Consider forming a peer study group if your program has a significant number of auditory learners. Allow learners the option of audiotaping a presentation to review later. Consider using a podcast or other mp3-based resources.

For Tactile Learners

Allow the option of movement (eg, pacing, squeezing a tennis ball, etc) during the teaching encounter. Use a whiteboard or chalkboard. Use colored markers (or have the learners do this) to emphasize relationships. Suggest that learners read “whole to part.” For example, skim first, look at summaries/abstracts/questions, and then go back. Suggest that learners locate guidelines/references relevant to the topic and report back on their findings.

Application to the Microskills Model

So far, we have identified the general characteristics of learning preferences and how they can be incorporated into general teaching. Using these strategies may increase the probability that effective learning will actually occur. The next step is to take the concepts of learning preferences and apply them to the Five Microskills Model of clinical teaching.

While the prospect of structuring a clinical encounter that accommodates different learning preferences at first seems daunting, it is really not. As Table 1 indicates, similar strategies can actually facilitate different learner types. For example, writing on a whiteboard might help the visual learner “see” the process or concept while also giving the tactile learner the opportunity to be actively engaged, thereby theoretically enhancing learning for both of these types of learners. Likewise, the tactile learners might benefit from looking up a citation while the auditory learner might be most helped by reading it aloud, so working in teams can be encouraged. Additionally, as Vaughn and Baker note, it is important to help learners move outside their own learning comfort zones. While the visual learner might prefer a quiet setting, this is usually not possible given the reality of a fast-paced, crowded preceptor room. For their own survival, all learners must “learn how to learn” in settings that are less than optimal for their own preferred style. By incorporating a variety of teaching strategies, the preceptor can encourage the learner to experiment...
Table 1

Application of Learning Preferences to the Five Microskills Model

<table>
<thead>
<tr>
<th>Microskills Step</th>
<th>Strategy</th>
<th>Learner Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Get a commitment (“What do you think it is?”)</td>
<td>Suggest learners write ideas down before the precepting encounter</td>
<td>Visual</td>
</tr>
<tr>
<td></td>
<td>Allow time to formulate the response</td>
<td>Auditory</td>
</tr>
<tr>
<td></td>
<td>Allow options for physical movement</td>
<td>Tactile</td>
</tr>
<tr>
<td>2. Probe for supporting evidence (“Why do you think this is the case?”)</td>
<td>Suggest algorithms to provide mapping options</td>
<td>Visual</td>
</tr>
<tr>
<td></td>
<td>Have preceptor/resident/student use a whiteboard</td>
<td>Visual/tactile</td>
</tr>
<tr>
<td></td>
<td>Feed responses back to the learner using reflective listening</td>
<td>Auditory</td>
</tr>
<tr>
<td>3. Teach general rules (“When this happens, do x.”)</td>
<td>Use charts/graphs-tables</td>
<td>Visual</td>
</tr>
<tr>
<td></td>
<td>Use mnemonics</td>
<td>Visual or auditory (depends on type)</td>
</tr>
<tr>
<td></td>
<td>Have learners read references/guidelines aloud</td>
<td>Auditory</td>
</tr>
<tr>
<td></td>
<td>Suggest learners read “whole to part”</td>
<td>Tactile</td>
</tr>
<tr>
<td></td>
<td>Use color-coded markers on a whiteboard</td>
<td>Tactile</td>
</tr>
<tr>
<td>4. Reinforce what was right (“Specifically, you did x well”)</td>
<td>Have learners write down key points, preferably in a resource book or PDA</td>
<td>Visual/tactile</td>
</tr>
<tr>
<td></td>
<td>Suggest learners give a mini-lecture or conference at a later date</td>
<td>Auditory</td>
</tr>
<tr>
<td></td>
<td>Break down the process into component parts</td>
<td>Tactile</td>
</tr>
<tr>
<td>5. Correct mistakes (“Next time this happens, do x”)</td>
<td>Elicit questions/ideas</td>
<td>Auditory</td>
</tr>
<tr>
<td></td>
<td>Have learners read the references/guideline aloud</td>
<td>Auditory</td>
</tr>
<tr>
<td></td>
<td>Suggest learners give a mini-lecture/conference at a later date</td>
<td>Auditory</td>
</tr>
<tr>
<td></td>
<td>“Map” it using a chart</td>
<td>Visual</td>
</tr>
<tr>
<td></td>
<td>Have learners find the reference, guideline, or citation</td>
<td>Tactile</td>
</tr>
</tbody>
</table>

with different learning strategies, which may help him or her to become a more flexible and adaptive learner. Using a variety of teaching strategies allow the preceptor to provide valuable pedagogical guidance in addition to teaching clinical skills.

As an aside, it is important for clinical faculty to remember that, just as there are learning preferences, there are also teaching preferences. One’s preferred teaching style often derives primarily from individual inclination coupled with past experiences as a learner. Incorporating different strategies into teaching, while initially uncomfortable and awkward, may ultimately make it easier for both learners and teachers to move beyond their preferred styles.

Conclusions

An awareness of learning preference suggests practical ways to enhance clinical teaching. By incorporating simple strategies, clinical instructors may improve the efficacy of clinical teaching encounters. Future research on the use of these strategies in precepting is needed to identify ways that learning preferences may further refine and improve clinical teaching and learning.

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