Mnemonics and Memory Aids
By Margaret A. Fitzgerald, DNP, FNP-BC, NP-C, FAANP, CSP

Clinical practice requires a firm grasp of a body of knowledge with great breadth and depth. Mnemonics and other memory aids can be helpful when trying to recall information that requires memorization, such as physical exam findings and etiology of select diseases. Here are a few mnemonics I hope you find helpful.

Common Systolic Heart Murmurs: 

**MR PASS**

*Mitral*  
*Regurgitation*  
*Physiologic* (also known as functional, systolic flow murmur, a heart murmur heard in the absence of cardiac abnormality)  
*Aortic*  
*Stenosis*  

**Systolic**- All the above murmurs are heard during systole.

MR PASS wins the Most Valuable Player award.

*Mitral*  
*Valve*  
*Prolapse*- Add MVP as another systolic murmur.

MR PASS often hangs around with MS ARD.

*Mitral*  
*Stenosis*  
*Aortic*  
*Regurgitation*  
*Diastolic*- All the above murmurs are heard during diastole.

(Source- MR PASS MVP, MS ARD mnemonic developed by Margaret A. Fitzgerald. © 2008 Fitzgerald Health Education Associates, Inc. Permission required for reproduction. Email: permissions@fhea.com).

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FHEA Offer of the Month

10% Off- Expert Exam: ENT Skills for Primary and Acute Care Practitioners

Upcoming Cruises

- **7-Day Sunfarer Mexican Riviera**  
  Royal Caribbean’s Vision of the Seas  
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All cruises include at-sea seminars by Margaret Fitzgerald

Upcoming NP Certification Exam Review Courses

Miami, FL— July 18-20  
Phoenix, AZ— July 24-26  
Nashville, TN— August 4-6  
(Also Acute Care)  
Chicago, IL— September 3-5  
No. Andover, MA— September 3-5  
Manhattan, NY— September 10-12  
Atlanta, GA— September 12-14  
Philadelphia, PA— September 15-17  
(Also Acute Care)  
Houston, TX— September 17-19  
Orlando, FL— September 25-27

(footer- go to the FHEA store to enroll or for a complete calendar of review courses.)
Nature Knows Best:
The Relationship Between Breastmilk and Biological Specificity
by Marie L. Bosco, BSN

The human body is designed to fend off disease in a number of ways, and the most fundamental protection is established when breastmilk is introduced to an infant. Every species of mammal produces unique milk made to satisfy the nutritional requirements of its offspring, and in turn these specific qualities ensure survival. This principle is called biological specificity.

For example, whale’s milk is high in fat because these mammals require an abundant amount of body fat to guarantee survival. On the other end of the spectrum humans need a great deal of brain growth to survive; thus, their milk is high in nutrients to support rapid brain development. These nutrients are referred to as DHA and RHA and their long chains of fatty acids support brain and retinal growth.

Thus, composition of milk plays a major role in the development of an infant. Since the ratio of protein in cow’s milk is different from the ratio of proteins in human milk, it ultimately plays a part in the formula fed infant because the design of formula (which is partially composed of cow milk) does not compare to the natural makeup of human milk. Some of the elements which make up human milk are much higher in comparison to formula and cow milk. A few of these proteins which are important for brain growth include whey, and the amino acid taurine. These proteins are easily digested with little waste.

Human milk is much sweeter than formula because it contains more lactose, which is also suited for brain growth. Formulas often contain high fructose sugars in an effort to imitate human milk. These sugars, however, are not easily absorbed. Certain vitamins and minerals are also peculiar to human milk. Though formulas contain vitamins, human milk vitamins and minerals have a higher bioavailability so they are more readily absorbed by the infant. Allergic factors also play a part in the health of a formula fed infant because cow’s milk based formula is foreign to humans. Therefore infants exposed to these proteins develop antibodies towards them.

Milk is designed to build immunities, but it also suits the stages of growth in young. This is evident in human milk which contains immunoglobulins. The highest concentration of these is found in colostrum, which is the first milk a newborn will drink. Secretory IgA protects against many bacterial and viral infections mainly through the GI tract. The IgA levels will respond against specific viruses and bacteria when mothers are exposed to them. This immunization booster is provided by mothers when needed to protect their offspring. Lactoferrin is an iron-binding protein in human milk not found in formula. This protein is designed to limit the availability of iron to bacteria in the intestine, and alters which healthy bacteria will survive in the gut.

This protein can be a direct antibiotic for strains of Staphylococci species and E. coli. Lysozymes protect the intestinal tract against a variety of bacteria and these levels are substantially higher in human milk than in formulas. The level of lysozyme remains constant in breastmilk unlike many other ingredients that vary from hour to hour, and day to day.

Growth factors such as lactobacillaceae are also present in human milk. These protective bacteria inhibit growth of many gram-negative bacteria and parasites. Breastfed infants have at least ten times the amount of lactobacillus in their guts compared to the guts of formula fed infants.

The list of breastmilk ingredients along with their specific use to human survival becomes longer as scientists continue to study breastmilk. To date, there are at least 400 ingredients found in breast milk that cannot be replicated in a man-made drink (i.e. formula). Each species of mammal is designed to have its own milk, and one can undoubtedly see the shortcomings of substituting the components of one milk for another. Though there have been many attempts to replicate all the nutritional benefits of breastmilk, the numerous components simply cannot be duplicated at this time. One has to admit, when it comes to the design of a mammal’s milk, nature does know best!

Aortic Stenosis Symptoms

A person with clinically significant aortic stenosis can be SAD.

- Syncope
- Angina
- Dyspnea


Physiologic Split S2 Heart Sound

This is a normal finding in which the aortic and pulmonic components of the second heart sound are heard separately. This finding is present in the majority of children and adults, but becomes less common after age 55. The split is caused by a delay in the pulmonic component, and the degree of split increases on inspiration and decreases on expiration.

Vocal or tactile fremitus: increases with increased tissue density (i.e., the area of lung consolidation found in pneumonia).


For Delirium Etiology: DELIRIUMS

- Drugs- When any medication is added or dose is adjusted. Particularly problematic medications include anticholinergics (TCA, 1st gen antihistamines), neuroleptics, (haloperidol, others), opioids (in particular, meperidine), long-acting benzodiazipines (diazepam, clonazepam), alcohol, others
- Emotional (mood disorders, loss), Electrolyte disturbance
- Low PO2 (hypoxemia from pneumonia, COPD, pulmonary embolias, MI) Lack of drugs (withdrawal from alcohol, or other habituating substances)
- Infection - Urinary tract infection and pneumonia (most common delirium etiology)
- Retention of urine or feces, Reduced sensory input (blindness, deafness, darkness, change in surroundings)
- Ictal or postictal state - Alcohol withdrawal one of the most common reasons for an isolated seizure in an older adult.
- Undernutrition- Protein/calorie malnutrition, vitamin B12 or folate deficiency, dehydation including postoperative volume disturbance
- Metabolic (poorly controlled DM, under- or untreated hypo or hyperthyroidism), Myocardial problems (MI, heart failure, dysrhythmia)
- Subdural hematoma- Can be as a result of relatively minor head trauma to brain atrophy, fragile vessels

(Treatable Causes of Urinary Incontinence: DIAPPERS

Delirium
Infection—urinary (symptomatic)
Atrophic urethritis and vaginitis
Pharmaceuticals
Psychologic disorders, especially depression
Excessive urine output (heart failure, hyperglycemia)
Restricted mobility
Stool impaction

Presentation of Anticholinergic Overdose or Misuse

Examples of medications with significant anticholinergic effect include the first generation antihistamines (diphenhydramine (Benadryl), chlorpheniramine (ChlorTrimeton), others) and tricyclic antidepressants (amitriptyline (Elavil), nortriptyline (Pamelor). A list of other medications with significant anticholinergic effect can be found at: http://www.fpnotebook.com/Neuro/Pharm/AntchlnrgcMdctn.htm, accessed 6.20.08.

With an overdose or misuse of medications with significant anticholinergic effect, the patient can be:

- Blind as a bat (blurred vision)
- Dry as a bone (dry mouth)
- Red as a beet (flushing)
- Mad as a hatter (confusion)
- Hot as a hare (hyperthermia)
- Can’t see (vision changes)
- Can’t pee (urinary retention)
- Can’t (do something that rhymes with "spit", constipation)

Note that a milder form of these findings can be present in an elderly patient who has taken an over-the-counter sleep aid containing diphenhydramine (Benadryl), a first-generation antihistamine, or any medication know to have significant anticholinergic effect.

(Source- http://www.medicalmnemonics.com, original attribution unknown)

(Continued on page 4)
Causes of Acute Pancreatitis: I GET SMASHED
Idiopathic
- Gallstones (most common reason for acute pancreatitis with amylase >1000 units/L)
- Ethanol (alcohol)
- Trauma (usually blunt abdominal injury)
- Steroids
- Mumps
- Autoimmune
- Scorpion bites
- Hyperlipidemia (particularly hypertriglyceridemia)
- Drugs (azathioprine, thiazide diuretics)

(Source: http://www.medicalmnemonics.com/, original attribution unknown)

Healthcare mnemonics: A note of caution

While these memory aids are helpful, I must add a note of caution. Treatment mnemonics can be problematic because the learner might have memorized what to do but does not have a firm grasp on why a particular intervention is helpful. Safe clinical practice involves knowing the “why” as well as the “how.”

Please contact me (cs@fhea.com) with the mnemonics and memory aids you find helpful.

Upcoming Conferences Featuring FHEA Speakers

Keystone, CO July 10, 2008: Nurse Practitioner Symposium
Fitzgerald Health Education Associates, Inc.

North Andover, MA July 17, 2008: Pharmacology Update
Fitzgerald Health Education Associates, Inc.

Snowbird, UT August 07, 2008: 32nd Annual Snowbird Conference
Snowbird Ski Resort, Snowbird, UT

Philadelphia, PA September 22nd, 2008: Pharmacology Update
Philadelphia VA Medical Center
Fitzgerald Health Education Associates, Inc.

Pittsburgh, PA September 29th, 2008: Pharmacology Update
VA Medical Center
Fitzgerald Health Education Associates, Inc.

Newton, MA October, 20th, 2008: 6 Day Clinical Pharmacology Course
Fitzgerald Health Education Associates, Inc.

State College, PA November 7th, 2008: PACNP Conference
Penn Stater Hotel and Conference Center

Reciprocity Certification Question and Answer
By Margaret Fitzgerald, DNP, FNP-BC, NP-C, FAANP, CSP

Question: I heard that if I am certified by one of the major NP certifying organizations I can apply to become certified by the other agency through reciprocity. Can you provide additional information about certification by reciprocity?

Reply: The American Nurse Credentialing Center (ANCC) and the American Academy of Nurse Practitioners (AANP) offer the option of NP certification through reciprocity. Here is a summary of the reciprocity policy from each organization.

American Nurse Credentialing Certification Reciprocity Policy

Reciprocity refers to the ANCC Commission on Certification policy whereby your certification with a different certification organization may be recognized by ANCC.

ANCC may grant reciprocity to a nurse certified by another certifying organization in a certification specialty also offered by ANCC, subject to the following conditions:

- The other certifying organization’s exam is accredited by either the American Board of Nursing Specialties (ABNS) or the National Commission of Certifying Agencies (NCCA).
- You hold a current certification with the other organization.
- You hold a current, active RN license within a state or territory of the United States or the professional, legally recognized equivalent in another country.

Source: http://www.nursecredentialing.org/ancc/cert/PDFs/CertificationReciprocity.pdf

American Academy of Nurse Practitioners Certification Reciprocity Policy

Family, gerontologic, and adult nurse practitioners with prior certification by an approved national certification body who meet the criteria for endorsement established by the AANP Certification Program, may apply for endorsement by submitting the approved application. The endorsement candidate must be currently certified by the ANCC with initial NP certification date prior to January 1, 1995.

Source: http://www.aanp.org/Certification/QualificationOfCandidates.htm
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If you are interested in having Margaret or one of our other talented associates speak at your school, local, regional or national conference, please e-mail tricia@fhea.com for more information.
Conference administrative services are also available.

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| **National Primary Care NP Symposium** | -Antimicrobial Update: A Focus on Prescribing in the Age of Drug Resistant Organisms  
-\Worst Case Scenarios: Uncommon Outcomes in Common Diseases |
| Keystone, CO  
July 10th 2008 | |
| **FHEA Pharmacology Update** | -Type 2 Diabetes Mellitus: Current Issues in Assessment and Intervention  
-Prescribing in Pregnancy: A Focus on Safety and Efficacy--  
-Pharmacologic Intervention During Lactation: A Focus on Safety and Efficacy |
| North Andover, MA  
July 17th, 2008 | |
| **Retail Clinician Educational Conference** | -Getting Certified: Issues for the new and practicing NP  
-Drug Update: What is hot, what is not  
-Antimicrobial Update: The latest guidelines in the treatment of respiratory tract infections |
| Gaylord Palms Hotel, Orlando, FL  
August 11th, 2008 | |
| **UAPRN of Macon, GA** | -HPV, CA-MRSA, Avian Flu, Pertussis and More: Preventing and Treating emerging infectious disease threats  
-Role of Inflammatory Process in Disease States  
-Now What? Puzzling Diagnostic Case Studies in Primary Care Practice |
| Macon, GA  
September 12th, 2008 | |
| **Texas NP Conference** | -Future of NP practice |
| Austin, TX  
September 26th, 2008 | |
| **LWW Nursing Management Congress 2008** | -Collaboration between Nurse Managers and Advance Practice Clinicians |
| Las Vegas, NV  
October 1st, 2008 | |