The 5-Minute Clinical Consult Premium 2018

26th EDITION

Editor-in-Chief
Frank J. Domino
Associate Editors
Robert A. Baldor
Jeremy Golding
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1-YEAR
ENHANCED ONLINE
ACCESS + PRINT

Wolters Kluwer

5MinuteConsult™
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Born in 1926, H. Winter Griffith became a pioneer in the world of family medicine. He recognized the benefit of fast access to information needed at the point of care. His first book focused on patient education and was published in the early 1970s. Before his death, his patient education book was updated through eight editions and three decades.

Dr. Griffith wrote 27 books covering issues including medications, sports medicine, and patient education. In 1993, he published the first edition of The 5-Minute Clinical Consult.

Despite his busy practice, his academic work (teaching first in Florida and then in Arizona) and his own health problems, Dr. Griffith, along with coeditor and author, Mark Dambro, MD, continued to help his peers by updating this book every year. He and Mark wrote much of the book and invited volunteer authors to help cover the wide range of the text.

Like Dr. Griffith's other books, The 5-Minute Clinical Consult *immediately filled a void in patient care. Their work became the first "fast" method to answer clinical questions of diagnosis and treatment. It is the first "database" of medical information. In fact, their motivation for developing this structured content was to make it available on technology.*

This year's 5-Minute Clinical Consult *is dedicated to Dr. H. Winter Griffith and to Dr. Mark Dambro. Their efforts were visionary, and their legacy is the book in your hand. Dr. Griffith is gone, but Dr. Dambro continues to work in medicine. Thank you Dr. Griffith and Dr. Dambro.*

And thank you to all of the volunteer authors of The 5-Minute Clinical Consult. *Your dedication and interest have made this book, year after year, a valuable asset to all who practice medicine. As the current editor, my reliance on you is great, and my gratitude greater. Like Dr. Griffith, your efforts will live on in these pages.*

FRANK J. DOMINO, MD

PREFACE

"If you want to heal the body, you must first heal the mind."

–PLATO

Some truths are timeless. Plato was born in 428 B.C. He understood that good physical health can only occur in the presence of sound mental health. We can "cure" a malignancy in someone with end-stage dementia, but are they really healed? Can someone without a single *physical* illness, but who struggles with paralyzing anxiety or the depths of depression, be considered well?

In an era dictated by guidelines and "quality" measures, it is easy to miss the forest for the trees. We can make all the numbers "reach the target" and miss the main problem. The action of chasing targets can also result in the added harm of unpredicted consequences such as overdiagnosis, and its cousin, overtreatment. Sound mental health requires not just adequate treatment but initial recognition. As marijuana becomes more available (medical and otherwise), one wonders if anxiety, insomnia, depression, and dysthymia will become even more hidden as patients self-medicate.

Screening for mental health problems is one route to identifying those at risk. Yet, I suspect you have a sense, a gut instinct, when you are with someone who is mentally suffering. One of my former mentors, Bill Damon, used to say that you know when you are with a depressed patient because you begin to feel depressed being with them (countertransference). This is true of anxiety as well; when you have an anxious patient, you begin to feel anxious. The treatment for these folks is not just about addressing their chief complaint but also addressing their hidden, often primary, issue.

We teach learners that 95% of patient visits involve a patient's anxiety. If they have upper respiratory tract infection symptoms, patients often do not want an antibiotic, but mostly to be reassured their condition is nothing serious. If they have chest pain, they want your professional belief that the pain is not their heart. Even when tests are negative, patients look to us to treat their anxiety with our words.

Words have power—to encourage and to do damage. Their absence, not asking, also has consequence. My good friend Sanjiv reminds me to "speak only to create bliss." That bliss may be to query the anxiety or depression of our patient, to offer a kind word to someone struggling, to compliment an oppositional adolescent, and to lend our voice to those who support health care for all.

Another Bill Damon quote is "Always touch the part that hurts, and remember that it's often the heart." Words have power to heal the mind.

Welcome to the 2018 edition of *The 5-Minute Clinical Consult*. This is a book of diseases, diagnostic methods, and treatment recommendations. Much of the work provided by primary care providers is focused on helping the patients help themselves to be healthier. Diet, exercise, safety, and prevention are the interventions that provide the greatest number of people with the greatest return on longevity and its enjoyment.

This year's *The 5-Minute Clinical Consult* is here to assist in fulfilling our role as a health care provider. In each patient interaction, in addition to bringing your clinical expertise, remember how others view you, as a leader, and the power of your words and actions. Encourage them to dream more, learn more, do more, and to be more.

Our editorial team has collaborated with hundreds of authors so that you may deliver your patients the best care. Each topic provides you with quick answers you can trust, where and when you need them most, either in print or online at www.5MinuteConsult.com.

This highly organized content provides you with the following:

- Differential diagnosis support from our expanded collection of algorithms
- Current evidence-based designations highlighted in each topic
- 540+ commonly encountered diseases in print, with an additional 1,500 online topics, including content from *The 5-Minute Pediatric Consult* and *Rosen & Barkin's 5-Minute Emergency Medicine Consult*
- FREE point-of-care CME and CE: 1/2 hour credit for every digital search
- Thousands of images to help support visual diagnosis of all conditions
- Video library of procedures, treatment, and physical therapy
- A to Z drug database from Facts & Comparisons
- Laboratory test interpretation from *Wallach's Interpretation of Diagnostic Tests*
- More than 3,000 patient handouts in English and Spanish
- ICD-10 codes and *DSM-5* criteria; additionally, SNOMED codes are available online.

Our website, www.5MinuteConsult.com, delivers quick answers to your questions. It is an ideal resource for patient care. Integrating *The 5-Minute Clinical Consult* content into your workflow is easy and fast. And our patient education handouts can assist in helping you meet meaningful use compliance.

If you purchased the Premium Edition, your access includes 1 year FREE use of our expanded website; the Standard Edition includes a free 10-day trial! The site promises an easy-to-use interface, allowing smooth maneuverability between topics, algorithms, images, videos, and patient education materials as well as more than 1,500 online-only topics.

Evidence-based health care is the integration of the best medical information with the values of the patient and your skill as a clinician. We have updated our EBM content so you can focus on how to best apply it in your practice.

The algorithm section includes both diagnostic and treatment algorithms. This easy-to-use graphic method helps you evaluate an abnormal finding and prioritize treatment. They are also excellent teaching tools, so share them with the learners in your office.

This book and website are a source to solve problems; to help evaluate, diagnose, and treat patients' concerns. Use your knowledge, through your words and actions, to address their anxiety.

The 5-Minute Clinical Consult editorial team values your observations, so please share your thoughts, suggestions, and constructive criticism through our website, www.5MinuteConsult.com.

FRANK J. DOMINO, MD

EVIDENCE-BASED MEDICINE

WHAT IS EVIDENCE-BASED MEDICINE?

Remember when we used to treat every otitis media with antibiotics? These recommendations came about because we applied logical reasoning to observational studies. If bacteria cause an acute otitis media, then antibiotics should help it resolve sooner, with less morbidity. Yet, when rigorously studied (via a systematic review), we found little benefit to this intervention.

The underlying premise of evidence-based medicine (EBM) is the evaluation of medical interventions and the literature that supports those interventions, in a systematic fashion. EBM hopes to encourage treatments proven to be effective and safe. And when insufficient data exists, it hopes to inform you on how to safely proceed.

EBM uses end points of real patient outcomes, morbidity, mortality, and risk. It focuses less on intermediate outcomes (bone density) and more on patient conditions (hip fractures).

Implementing EBM requires three components: the best medical evidence, the skill and experience of the provider, and the values of the patients. Should this patient be screened for prostate cancer? It depends on what is known about the test, on what you know of its benefits and harms, your ability to communicate that information, and that patient's informed choice.

This book hopes to address the first EBM component, providing you access to the best information in a quick format. Although not every test or treatment has this level of detail, many of the included interventions here use systematic review literature support.

The language of medical statistics is useful in interpreting the concepts of EBM. Below is a list of these terms, with examples to help take the confusion and mystery out of their use.

Prevalence: *proportion of people* in a population who have a disease (in the United States, 0.3% [3 in 1,000] people >50 years have colon cancer)

Incidence: How many *new cases of a disease* occur in a population during an interval of time; for example, "The estimated incidence of colon cancer in the United States is 104,000 in 2005."

Sensitivity: Percentage of people with disease who test positive; for mammography, the sensitivity is 71–96%.

Specificity: Percentage of people without disease who test negative; for mammography, the specificity is 94–97%.

Suppose you saw ML, a 53-year-old woman, for a health maintenance visit, ordered a *screening* mammogram, and the report demonstrates an irregular area of microcalcifications. She is waiting in your office to receive her test results, what can you tell her?

Sensitivity and specificity refer to characteristics of people who are *known to have disease* (sensitivity) or those who are *known not to have disease* (specificity). But, what you have is an abnormal test result. To better explain this result to ML, you need the positive predictive value.

Positive predictive value (PPV): Percentage of *positive* test results that are truly positive; the PPV for a woman aged 50–59 years is approximately 22%. That is to say that only 22% of abnormal screening mammograms in this group truly identified cancer. The other 78% are false positives.

You can tell ML only one out of five abnormal mammograms correctly identify cancer; the four are false positives, but the only way to know which mammogram is correct is to do further testing.

The corollary of the PPV is the negative predictive value (NPV), which is the percentage of negative test results that are truly negative.

The PPV and NPV tests are population-dependent, whereas the sensitivity and specificity are characteristics of the test, and have little to do with the patient in front of you. So when you receive an abnormal lab result, especially a screening test such as mammography, understand their limits based on their PPV and NPV.

Treatment information is a little different. In discerning the statistics of randomized controlled trials of interventions, first consider an example. The Scandinavian Simvastatin Survival Study (4S) (*Lancet.* 1994;344[8934]:1383–1389) found using simvastatin in patients at high risk for heart disease for 5 years resulted in death for 8% of simvastatin patients versus 12% of those on placebo; this results in a relative risk of 0.70, a relative risk reduction of 33%, and a number needed to treat of 25.

There are two ways of considering the benefits of an intervention with respect to a given outcome. The absolute risk reduction is the difference in the percentage of people with the condition before and after the intervention. Thus, if the incidence of myocardial infarction (MI) was 12% for the placebo group and 8% for the simvastatin group, the absolute risk reduction is 4% (12% − 8% = 4%).

The relative risk reduction reflects the improvement in the outcome as a percentage of the original rate and is commonly used to exaggerate the benefit of an intervention. Thus, if the risk of MI were reduced by simvastatin from 12% to 8%, then the relative risk reduction would be 33% (4% / 12% = 33%); 33% sounds better than 4%, but the 4% is the absolute risk reduction and reflects the true outcome.

Absolute risk reduction is usually a better measure of *clinical* significance of an intervention. For instance, in one study, the treatment of mild hypertension has been shown to have relative risk reduction of 40% over 5 years (40% fewer strokes in the treated group). However, the absolute risk reduction was only 1.3%. Because mild hypertension is not strongly associated with strokes, aggressive treatment of mild hypertension yields only a small clinical benefit. Don't confuse relative risk reduction with relative risk.

Absolute (or attributable) risk (AR): the percentage of people in the placebo or intervention group who reach an end point; in the simvastatin study, the absolute risk of death was 8%.

Relative risk (RR): the risk of disease of those treated or exposed to some intervention (i.e., simvastatin) divided by those in the placebo group or who were untreated

- If RR is <1.0, it reduces risk—the smaller the number, the greater the risk reduction.
- If RR is >1.0, it increases risk—the greater the number, the greater the risk increase.

Relative risk reduction (RRR): the relative decrease in risk of an end point compared to the percentage of that end point in the placebo group

If you are still confused, just remember that the RRR is an overestimation of the actual effect.

Number needed to treat (NNT): This is the number of people who need to be treated by an intervention to prevent one adverse outcome. A "good" NNT can be a large number (>100) if risk of serious outcome is great. If the risk of an outcome is not that dangerous, then lower (<25) NNTs are preferred.

The NNT should be compared to a similar statistic, the number needed to harm (NNH). This is the number of people who have to be given treatment before one excess side effect or harm occurs. When the NNT is compared to the NNH, you and the patient can judge whether the benefit of the intervention is great enough to outweigh the risk of harm.

EVIDENCED-BASED GRADING

To help you interpret diagnostic and treatment recommendations within *The 5-Minute Clinical Consult*, we have graded the best information within the text and highlighted this content.

An "A" grade means the reference is from the highest quality resource, such as a systematic review. A *systematic review* is a summary of the medical literature on a given topic that uses strict, explicit methods to perform a thorough search of the literature and then provides a critical appraisal of individual studies, concluding in a recommendation. The most prestigious collection of systematic reviews is from the Cochrane Collaboration (www.cochrane.org).

A "B" grade means the data referenced comes from high-quality randomized controlled trials performed to minimize bias in their outcome. Bias is anything that interferes with the truth; in the medical literature, it is often unintentional, but it is much more common than we appreciate. In short, always assume some degree of bias exists in any research endeavor.

A "C" grade implies the reference used does not meet the A or B requirements; they are often treatments recommended by consensus groups (such as the American Cancer Society). In some cases, they may be the standards of care. But implicit in a group's recommendation is the bias of the author or the group that supports the reference. For example, the American Urological Society's recommendation around screening for prostate cancer may be motivated by their narrow scope and financial benefit. Compare this to the recommendations of the U.S. Preventive Services Task Force (www.ahrq.gov), which recommends against screening for prostate cancer.

BIAS

Bias is anything that interferes with the truth. There are many types of bias that should be considered by the publishers of medical information. Below describes a number of bias types that often affect our care without us knowing it is present.

Publication bias occurs when research is not published; this is often when a study finds data that does *not* support an intervention. The motivation to publish information that "didn't work" is low. It is estimated that up to 40% of all medical research never gets published. When you read of an effective intervention, wonder if other studies did not show benefit and went unpublished.

Comparator bias occurs when research compares an intervention to not the standard of care. Knowing a new treatment is more effective than placebo for treating a condition is not helpful if you typically use a drug or procedure. Why not study comparing the new to the standard of care? Sometimes, the new treatment is no better than the current standard. And if a study was done to see if the new is better than the old and not published, you have an example of publication bias.

Selection bias involves choosing study populations that might be different than the average patient or just reporting a just subset of study participants from a study. Either will result in the data being skewed because it can only be applied to small subset of people.

Attrition bias and the concept of intention to treat. Attrition bias is when researchers do not fully acknowledge and address how a study deals with participants who do not adhere to the research protocol or drop out completely. Intention to treat analysis hopes to diminish attrition bias by statistically considering the nonadhering or dropped out patients as unsuccessfully benefiting from the intervention.

Commercial (funder) bias involves who paid for the research being done, and do they have a vested interest in the outcome. If the developer of a new drug does a large study, or a researcher has a personal financial interest in seeing a study succeed, they may consciously or unconsciously alter what is reported in a study. The data may be accurate, but until this is studied by less vested interests, some feel its outcome cannot be clinically applied.

Have you been annoyed how one week you learn of a randomized controlled trial that supports a treatment, to be followed the next week with a contradictory article? Statisticians have figured out how to resolve this using something called a systematic review.

A systematic review gathers all the literature on a topic, say using antibiotics to treat otitis media, and combines the data to determine if the sum of all the trials tells a different story than any single trial. The large number of participants in this type of research results in a much more statistically (and clinically) significant conclusion than any single paper. Want more? Check this out: http://community.cochrane.org/about-us/evidence-based-health-care.

A meta-analysis is a quantitative systematic review and demonstrates its outcomes in the form of a forest plot. The bottom line with interpretation of a forest plot is to look for the diamond on the bottom. If it is to LEFT of the vertical line, it means risk of an outcome was reduced by the intervention. If it is fully to the RIGHT, then risk of that outcome was increased. And if the diamond touches the vertical line, it means there was no statistical influence of the intervention on the outcome.

We hope this brief introduction to EBM has been informative, clear, and helpful. If any of the information above seems unclear, or if you have a question, please contact us via www.5MinuteConsult.com.

ACKNOWLEDGMENTS

This is the 26th edition of *The 5-Minute Clinical Consult*, a comprehensive point-of-care tool to assist in the care of patients. From beginning to end, one cannot find a more current and easy-to-use collection of clinically useful content.

Developing and maintaining a book and website of this magnitude requires an equally broad effort from its supporting team. I wish to thank the dedication and tireless efforts of many: executive editor, Rebecca Gaertner; digital product development editor, Leanne Vandetty; marketing manager, Rachel Mante Leung; and publisher, Lisa McAllister.

This 2018 edition is the direct result of the dedication and insights of our associate editors. I wish to thank Drs. Robert Baldor, Jeremy Golding, and Mark Stephens for their hard work and overwhelming commitment to *The 5-Minute Clinical Consult*.

I wish to especially thank my wife, Sylvia, and my daughter, Molly, who have given greatly for this book.

The challenge of completing a book covering this broad a spectrum of medicine requires insights and skills far beyond my own. Many thanks to my mentors Bob Baldor and Mark Quirk who have been an enormous support—always there to encourage, reassure, and impart wisdom.

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Medicine is a challenge I have fortunately not had to meet alone. Thanks to my parents, Frank and Angela (Jean); my brother, John, and his family, Marylou, Cate, and Jane; Frank, Mary Anne, Diane, and David Christian; the Diana and Hymie Lipschitz family; and the Bob and Ruth Pabreza family; they are responsible for who I am and my success in life.

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