"One thing I'll say for us, Meyer—we never stooped to popularizing science."

Drawing by Stevenson; © 1977
THE UNITED STATES: 
A SCIENTIFICALLY CHALLENGED SOCIETY

• Fewer than 50% of adults understand that the Earth orbits the sun yearly.

• Only 9% of adults what a molecule is.

• 1 in 7 adults -- 25 million people -- cannot locate the U.S. on an unlabelled map.

• 1/3 of Americans believe in astrology.
MY TURN
THE MEMOIRS OF
NANCY REAGAN
WITH WILLIAM NOVAK
THE UNITED STATES: A HIGH-TECH SOCIETY

About 50% of the major bills before Congress contain a major scientific or technological component.
The whole premise of democracy is that it is safe to leave important questions to the court of public opinion -- but is it safe to leave them to the court of public ignorance?

-- Isaac Asimov
WHAT IS PLAIN LANGUAGE?
Chapter 4
Adults and Mental Health

Chapter Overview
- Mental Health in Adulthood
- Stressful Life Events
- Prevention of Mental Disorders

Anxiety Disorders
- Types of Anxiety Disorders
- Etiology of Anxiety Disorders
- Treatment of Anxiety Disorders

Mood Disorders
- Complications and Comorbidities
- Assessment: Diagnosis and Syndrome Severity
- Etiology of Mood Disorders
- Treatment of Mood Disorders
- Specific Treatments for Episodes of Depression and Mania

Schizophrenia

Etiology of Mood Disorders
The etiology of depression, the mood disorder most frequently studied, is far from ideally understood. Many cases of depression are triggered by stressful life events, yet not everyone becomes depressed under such circumstances. The intensity and duration of these events, as well as each individual’s genetic endowment, coping skills and reaction, and social support network contribute to the likelihood of depression. That is why depression and many other mental disorders are broadly described as the product of a complex interaction between biological and psychosocial factors (see Chapter 2). The relative importance of biological and psychosocial factors may vary across individuals and across different types of depression.

This section of the chapter describes the biological, genetic, and psychosocial factors—such as cognition, personality, and gender—that correlate with, or predispose to, depression. The discussion of genetic factors also incorporates the latest findings about bipolar disorder. Genes are implicated even more strongly in bipolar disorder than they are in major depression, galvanizing a worldwide search to identify chromosomal regions where genes may be located and ultimately to pinpoint the genes themselves (NIMH, 1998).

Biologic Factors in Depression
Much of the scientific effort expended over the past 40 years on the study of depression has been devoted to the search for biologic alterations in brain function. From the beginning, it has been recognized that the clinical heterogeneity of depression disorders may preclude the possibility of finding a single defect. Researchers have detected abnormal concentrations of many neurotransmitters and their metabolites in urine, plasma, and cerebrospinal fluid in subgroups of patients (Thase & Howland, 1995); dysregulation of the HPA axis (Thase & Howland, 1995); elevated levels of corticotropin-releasing factor (Nemeroff, 1992, 1998; Mitchell, 1998); and,
PLAIN LANGUAGE EXAMPLE

• Acute or chronic inflammation of the periungual tissues.
  -- *The Merck Manual*

• An infection around the edge of a fingernail or toenail.
  -- *The Merck Manual: Home Edition*
WHAT’S IN IT FOR YOU?

• Winning funding.
  ➢ “The grant proposals that are well written are usually the ones that get the checks.”
    -- Dr. Wyn Jennings, Program Director of Graduate Research Traineeships, U.S. National Science Foundation.

• Getting read.
  ➢ Cleveland Clinic Journal of Medicine

• Drawing press coverage.
TIP #1
KNOW YOUR AUDIENCE
Barking Mad? Another Lunatic Hypothesis Bites The Dust

What is already known on this topic

Farming folklore holds that dogs bite more at the time of full moons

The research literature on the effect of lunar phase on human behaviour has mostly shown no association

What this study adds

In Australia no association exists between lunar phase and dog bites requiring hospital admission
TIP #3
TRUMPET MAIN POINTS IN YOUR ABSTRACTS

Seed Dispersal by Greater One-Horned Rhinoceros (Rhinoceros Unicornis) and the Flora of Rhinoceros Latrines

Summary. — Rhinoceros unicornis in Royal Chitwan National Park, Nepal ingested the fruits of at least 23 species of herbaceous and woody plants. Seeds manured into grassland latrines used by Rhinoceros yielded distinct floras of dicotyledonous plants in flood plain grassland associations. Trewia nudiflora, the most common riverine forest tree in Chitwan and Cassia tora, a weedy herb, accounted for most of the plant cover. A survey of the woody flora of Chitwan revealed that < 10 % of plants are dispersed by large mammals but large-mammal dispersed species represented the most common trees in flood plain forest and savannah associations.

Rhinos can crack open hard, large fruits, such as those of the deciduous Trewia tree, which cannot be pierced by weaker-jawed animals. They thereby release seeds that would otherwise rot without germinating.
Efficacy and safety of galantamine in patients with mild to moderate Alzheimer's disease: multicentre randomised controlled trial

Gordon K Wilcock, Sean Lilienfeld, Els Gaens on behalf of the Galantamine International-1 Study Group

Abstract

Objective To evaluate the efficacy and safety of galantamine in the treatment of Alzheimer's disease. Design Randomised, double blind, parallel group, placebo controlled trial. Setting 86 outpatient clinics in Europe and Canada. Participants 653 patients with mild to moderate Alzheimer’s disease. Intervention Patients randomly assigned to galantamine had their daily dose escalated over three to four weeks to maintenance doses of 24 or 32 mg. Main outcome measures Scores on the 11 item cognitive subscale of the Alzheimer’s disease assessment scale, the clinician’s interview based impression of change plus caregiver input, and the disability assessment for dementia scale. The effect of apolipoprotein E4 genotype on response to treatment was also assessed. Results At six months, patients who received galantamine had a significantly better outcome on the 11 item cognitive subscale of the Alzheimer’s disease assessment scale than patients in the placebo group (mean treatment effect 2.9 points for lower dose and 3.1 for higher dose, intention to treat analysis, P < 0.001 for both doses). Galantamine was more effective than placebo on the clinician’s interview based impression of change plus caregiver input (P < 0.05 for both doses vs placebo). At six months, patients in the higher dose galantamine group had significantly better scores on the disability assessment for dementia scale than patients in the placebo group (mean treatment effect 3.4 points, P < 0.05). Apolipoprotein E genotype had no effect on the efficacy of galantamine. 80% (525) of patients completed the study. Conclusion Galantamine is effective and well tolerated in Alzheimer's disease. As galantamine slowed the decline of functional ability as well as cognition, its effects are likely to be clinically relevant.

Conclusion: Galantamine is effective and well tolerated in Alzheimer’s disease.
TIP #5
CLEAR, SPECIFIC OPENER GIVING CONTEXT

This work addresses a central question of modern biology.

Parasitic flatworms are draining the resources of many developing economies. Successful control hinges on the development of a vaccine.
WARNING:

DON’T CONFUSE IMPERSONAL WRITING FOR OBJECTIVE SCIENCE!
TIP #6
ELIMINATE UNNECESSARY JARGON

Oviposition
Laying Eggs

Epistaxis
Nosebleed

Hepatic Function
Liver Function
PROPOSED MESSAGE TO THE CONGRESS

Yesterday, December 7, 1941, a date which will live in history, the United States of America was suddenly and deliberately attacked by naval and air forces of the Empire of Japan.

The United States was at the moment at peace with that nation and was engaged in conversations with its Government and its Emperor looking toward the maintenance of peace in the Pacific. Indeed, one hour after Japanese air squadrons had commenced bombing in Oahu, the Japanese Ambassador to the United States and his colleague delivered to the Secretary of State a formal reply to a recent American message, while the Japanese Government was still declaring its hope that the conflict might be avoided. This reply contained no threat or hint of armed attack.

It will be recorded that the distance of 5,500 miles from Japan made it impossible for the Japanese Government to walk in ignorance to war. The Japanese attack yesterday on Pearl Harbor made it an inevitable necessity for us to defend ourselves.

The United States and all nations期望和平的。 However, the Japanese Government has deliberately sought to deceive the United States and all nations through false statements and expressions of hope for continued peace.

Shortly before 5 p.m. on Sunday night, December 7, 1941, the president called his assistant, Grace Tully, to his study and began dictating the message he wanted to give to Congress the following day. He signed the declaration of war, which both chambers decisively approved with only one dissenting vote, the same day (1).
TIP #7
USE ACTIVE VOICE

Watson and Crick’s Paper on DNA Structure:

We wish to suggest a structure for the salt of deoxyribose nucleic acid (DNA). This structure has novel features which are of considerable biological interest.

It has not escaped our notice that the specific pairing we have postulated immediately suggests a possible copying mechanism for the genetic material.
TIP #8
BE CONCISE

How frequently do you encounter the following deficiencies in papers submitted for publication?

- Verbiage, wordiness
- Redundancy
- Poor syntax, poor grammar
- Unnecessary complexity
- Poor flow of ideas
- Wrong words
- Excessive abstraction
- Unnecessary qualification
- Excessive compression
Vision plays an important role in notifying animals of imminent danger, such as an impending collision with a predator or an environmental surface.

-- Three PhDs from Cal Tech in *Science*

Without eyes, you’d soon crash into a tiger or a tree.

-- Journalist from *The New York Times Magazine*
TIP #8
BE CONCISE

Following termination of avian exposure, there was a substantial incrementation in lung volume, and, at this moment in time, it would appear that there has been a marginal degree of improvement in diffusing capacity.

WORD COUNT: 34

After the man stopped keeping birds, his lung volume increased and diffusing capacity apparently improved slightly.

WORD COUNT: 16

HOW TO BE CONCISE:

1. Use common words. (“termination” vs. “stopped.”)
2. Use active voice. (Purge “there was” and “there has been.”)
3. Eliminate empty phrases. (Purge “at this moment in time.”)
4. Replace wordy phrases with terse phrases. (“there has been a marginal degree of improvement” vs. “improved slightly.”)
TIP #9
USE INTERESTING EXAMPLES/TELL STORIES
TIP #9
USE INTERESTING EXAMPLES/TELL STORIES

GERRY SPENCE ON STORYTELLING

Every argument in court or out, whether delivered over the supper table or at coffee break, can be reduced to a story. An argument, like a house, like the houses of the three little pigs, has structure. Whether it will fall, whether it can be blown down when the wolf huffs and puffs, depends on how it will be built. And the strongest structure for any argument is always story.

Storytelling has been the principle means by which we have taught one another from the beginning of time. We are indeed creatures of story. The stories of our childhood remain with us as primary experiences against which we judge and decide issues as adults. They are forever implanted on both our conscious and unconscious. Movies, television and theater are highly developed forms of storytelling. The most effective advertisements on television are always mini stories that take little more than a minute. Jokes are small stories. Christ’s parables are stories.

Before we can tell an effective story to the other, we must first visualize the picture ourselves. Begin to think in story form. Why?

Because the story is the easiest form for almost an argument to take. You don’t have to remember the next thought or the next sentence. You don’t have to memorize anything. You already know the whole story. You see it in your mind’s eye whereas you may or may not be able to remember the structure and sequence of the formal argument.

The story argument is so powerful because it speaks in the language form of the species. Its structure is natural. It permits the storyteller to speak easily, openly, from the heart zone. It provokes interest. It is the antidote to the worst poison that can be injected into any argument -- the doldrums.
TIP #9
USE INTERESTING EXAMPLES/TELL STORIES

The British Medical Journal

We welcome articles of up to 600 words on topics, such as a memorable patient, a paper that changed my practice, my most unfortunate mistake, or any other piece conveying instruction, pathos or humor.

Are fillers educational?

I have not seen a patient present with polymyalgia rheumatica for many years—perhaps over 15.

Thus, call it coincidence, but seven days after reading about two relatives with polymyalgia (BMJ 2000;320:1641) I saw a woman in general practice with marked weakness, headaches, lassitude, and a slowly rising erythrocyte sedimentation rate. She explained how the symptoms had come on quickly and had affected mostly her upper limbs but that her legs were also weak. After several discussions with her, repeat blood tests, and a short phone call to the local geriatrician, we decided that her condition was indeed polymyalgia rheumatica.

We hope that she is now heading for a steroid induced recovery, and I hope that osteoporosis prophylaxis will be sufficient to prevent her bones from becoming weaker.

The answer to the question in the title? Yes, they most certainly can be, though it is best if they can be timed so that they appear a few days before your next memorable patient. The feature is still one of the first articles I read in the BMJ.

Surinder Singh   general practitioner, south east London

We welcome articles of up to 600 words on topics such as A memorable patient, A paper that changed my practice, My most unfortunate mistake, or any other piece conveying instruction, pathos, or humour. If possible the article should be supplied on a disk. Permission is needed from the patient or a relative if an identifiable patient is referred to.
TIP #10
DON’T LOSE YOUR PASSION

Thus, from the war of nature, from famine and death, the most exalted object which we are capable of conceiving, namely, the production of the higher animals, directly follows. There is grandeur in this view of life, with its several powers, having been originally breathed into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been, and are being, evolved.
TIP #11
GIVE SCALE TO NUMBERS AND STATS

• One part per trillion (1 ppt) is one grain of salt in an Olympic-size pool.

• .002 seconds is the length of time it takes for a balloon to pop.

• The star is 29 light years away. A jet fighter flying at 1000 kph would cover the same distance in 31,320 years.
Tracking an Iceberg
the Size of a State

It sounds like a work of science fiction: an iceberg nearly the size of Delaware drifts 1,200 miles at speeds as great as eight miles a day for almost two years—then splits into pieces.

But it's true. The iceberg (right), bearing the prosaic name B-9, was calved from the eastern Ross Ice Shelf of Antarctica in October 1987, reuniting what had been the Bay of Whales with the open ocean. B-9, 96 miles long and 22 miles wide, was tracked on its odyssey by scientists who used satellite data to plot its route, speed, and rotation.

B-9 was not the largest iceberg ever known—one measuring some 60 by 60 miles holds that record—nor was it tracked the longest; scientists followed one berg for 11 years.

But in the process of tracking B-9, says Stan Jacobs of Columbia University's Lamont-Doherty Geological Observatory, scientists gained insight into how icebergs interact with powerful Antarctic currents and the seafloor.

As for the Bay of Whales: Jacobs says the ice around it will advance at the rate of about 1,600 feet a year, so it should resemble its old self in a mere 70 years.
TIP #11
GIVE SCALE TO NUMBERS AND STATS

BOOKS THAT CAN HELP:

• *Durations* by Stuart A. Sandow
• *Comparisons* by The Diagram Group

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TIP #12
AVOID BIG PERCENTAGES

• Doubling, tripling and quadrupling are clear: A number is multiplied by two, three or four. But percentages can be confusing.

• If you can avoid using percentage increases of more than 100, especially big round ones that look wrong even if they are right.

• A number that goes up 100% is doubled:
  
  25  50

• A number that goes up 200% is tripled:
  
  25  75

• A number that goes up 300% is quadrupled:
  
  25  100
TIP #13
SEEK AND USE FRIENDLY FIRE

• Paul Ehrlich, author of *The Population Bomb*, relies on his wife as his editor: “She tells me if it reads like gibberish.”

• One way to find out if you have succeeded in writing clearly is to show your draft to colleagues in other specialties. If they do not understand, neither, very probably, will *The Lancet’s* staff.

-- *The Lancet*
Writing is “largely a matter of application and hard work, or writing and rewriting endlessly until you are satisfied that you have said what you want to say as clearly and simply as possible. For me, that usually means many, many revisions.”

-- Rachel Carson, author of *Silent Spring*
OBSERVATION OF EQUIPARTITION OF SEISMIC WAVES

Equipartition is a first principle in wave transport based on the tendency of multiple scattering to homogenize phase space. We report observations of this principle for seismic waves created by earthquakes in Mexico. We find qualitative agreement with an equipartition model that accounts for mode conversions at the Earth’s surface.

EARTHQUAKES SHAKE, RATTLE AND ROLL

Frequent small earthquakes rick the hills near Chilpancingo, Mexico. A seismometer array there suggests that the gentle shaking at the end of the quake comes from waves that scatter many times in the Earth’s crust before reaching the surface.
RECENT EDITORIAL IN NATURE

Badly written work should be rejected, whatever its scientific standard. Authors will be prepared to work (or pay) to get their paper rewritten if the only grounds for rejection are those of unreadability. An editor should offer to rewrite such articles (for an exorbitant fee). Thus, editors will get rich, journals will get read, readers will retain their hair, and real progress will be made.
EDITING

No passion in the world -- no love, no hate -- is equal to the passion to alter someone else's draft.

-- H.G. Wells
An Evaluation of Structured Abstracts in Journals Published by the British Psychological Society


Full text available as: HTML

Abstract

Background. In 1997 four journals published by the British Psychological Society - the British Journal of Clinical Psychology, the British Journal of Educational Psychology, the British Journal of Health Psychology, and Legal and Criminological Psychology - began publishing structured abstracts. Aims. The aim of the studies reported here was to assess the effectiveness of these structured abstracts by comparing them with original versions written in a traditional, unstructured, format. Method. The authors of articles accepted for publication in the four journals were asked to supply copies of their original traditional abstracts (written when the paper was submitted) together with copies of their structured abstracts (when the paper was revised). 48 such requests were made, and 30 pairs of abstracts were obtained. These abstracts were then compared on a number of measures. Results. Analysis showed that the structured abstracts were significantly more readable, significantly longer, and significantly more informative than the traditional ones. Judges assessed the contents of the structured abstracts more quickly and with significantly less difficulty than they did the traditional ones. Almost every respondent expressed positive attitudes to structured abstracts. Conclusions. The structured abstracts fared significantly better than the traditional ones on every measure used in this enquiry. We recommend, therefore, that the editors of other journals in the social sciences consider the adoption of structured abstracts.

Keywords: abstracts, scientific communication, writing, readability, evaluation, written communication

Subjects: Psychology: Applied Cognitive Psychology

ID code: cog00000587

Deposited by: James Hartley on 13 January 1998
Jellyfish blooms: are populations increasing globally in response to changing ocean conditions?

Key words: biodiversity, Cnidaria, Ctenophora, hydromedusae, nonindigenous species, scyphomedusae, siphonophore

Abstract

By the pulsed nature of their life cycles, gelatinous zooplankton come and go seasonally, giving rise in even the most undisturbed circumstances to summer blooms. Even holoplanktonic species like ctenophores increase in number in the spring or summer when planktonic food is available in greater abundance. Beyond that basic life cycle-driven seasonal characteristic in numbers, several other kinds of events appear to be increasing the numbers of jellies present in some ecosystems. Over recent decades, man’s expanding influence on the oceans has begun to cause real change and there is reason to think that in some regions, new blooms of jellyfish are occurring in response to some of the cumulative effects of these impacts. The issue is not simple and in most cases there are few data to support our perceptions. Some blooms appear to be long-term increases in native jellyfish populations. A different phenomenon is demonstrated by jellyfish whose populations regularly fluctuate, apparently with climate, causing periodic blooms. Perhaps the most damaging type of jellyfish increase in recent decades has been caused by populations of new, nonindigenous species gradually building-up to ‘bloom’ levels in some regions. Lest one conclude that the next millennium will feature only increases in jellyfish numbers worldwide, examples are also given in which populations are decreasing in heavily impacted coastal areas. Some jellyfish will undoubtedly fall subject to the ongoing species elimination processes that already portend a vast global loss of biodiversity.

Knowledge about the ecology of both the medusa and the polyp phases of each life cycle is necessary if we are to understand the true causes of these increases and decreases, but in most cases where changes in jellyfish populations have been recognized, we know nothing about the field ecology of the polyps.

Introduction

For the purposes of this article, the term ‘jellyfish’ is used in reference to medusae of the phylum Cnidaria (hydromedusae, siphonophores and scyphomedusae) and to planktonic members of the phylum Ctenophora. Though not closely related, these organisms share many characteristics including their watery or ‘gelatinous’ nature, and a role as higher-order carnivores in plankton communities; I also cite one example of fragments of the benthic portion of a hydrozoan that occur in high numbers up in the water column, functioning more or less like small jellyfish in terms of their diet. I will not discuss the salps or other planktonic tunicates, which also have bloom characteristics in their appearances and disappearances in the water column, but which are herbivores feeding on very small particles, and have many other quite different aspects to their life cycles.

As parts of the oceans become increasingly disturbed and overfished, there is some evidence that energy that previously went into production of fishes may be switched over to the production of pelagic Cnidaria or Ctenophora (Mills, 1995). Commercial fishing efforts continue to remove top-predator fishes throughout the world oceans (Pauly et al., 1998), and it seems reasonable to watch concomitant trends in jellyfish populations. As jellyfish typically feed on the same kinds of prey as do many either adult or larval fishes.
EXPLAINING STATS TO THE PUBLIC

• The chances of finding this blood are 6.7 billion. There are not 6.7 billion people on the earth, so what does that mean?
  -- Jeanette Harris, Juror on O.J. Simpson Jury

• If you want to get someone with this DNA, we are going to have to go to another galaxy.
  -- Greta Van Susteren, CNN Legal Correspondent
EMPHASIZING CAUSE AND EFFECT RELATIONSHIPS

Increased numbers of ctenaphores lead to increased phytoplankton blooms in summer due to relaxation of grazing pressure by copepods.

In summer, ctenaphore populations increase, and so populations of their copepod prey decrease. Populations of the copepod’s phytoplankton prey then bloom.
The incidence and mortality of clinically manifest congestive heart failure due to left ventricular dysfunction is increasing in the United States. While many factors have contributed to this phenomenon, an increase in the high-risk elderly population (those with hypertension, coronary artery disease, diabetes, and obesity) coupled with advancements in the treatment of myocardial infarction and unstable angina have escalated the number of aged individuals expected to develop chronic heart failure (CHF) in the 21st century.

A) The changing epidemiology of heart failure.
B) New drugs for treating heart failure.
C) Improving the care of patients dying of heart failure.
D) Correcting fluid overload in decompensated heart failure.
E) Left vs. right ventricular dysfunction in heart failure.
Improving the care of patients dying of heart failure

ABSTRACT

Patients with heart failure have special palliative care needs, but palliative measures for treating the symptoms of end-stage heart failure have been largely ignored. A formal disease-management program for heart failure should include palliative care.

KEY POINTS

Although it is more difficult to determine when the end of life is near in heart failure than in other terminal diseases, algorithms based on multivariate analysis can help.

Before declaring a patient has end-stage heart failure, drug therapy must be optimized.

Patients want and deserve to be free of pain and dyspnea at the end of life; treatment algorithms can help guide therapy.

Frequent firing of an implanted defibrillator is a criterion for initiating palliative care. Discussions with the patient and family must include the difficult issues of turning off an implanted defibrillator.

Caregivers need to learn to communicate openly and clearly with their patients who are approaching the end of life. Doing so helps patients and their families make important decisions.

Too many heart failure patients die in pain, short of breath, and with too much left unsaid. We can do better for them.

Despite advances in its treatment, heart failure is still a lethal disease. As the graying of America continues and the prevalence of heart failure increases, we need to refocus our priorities to include palliative care as a part of the spectrum of services we provide. Specifically, we believe that a formal disease-management program, supervised by physicians, staffed by nurses, and based on evidence, can ease the suffering of patients in the end stage of heart failure.

In this article, we evaluate what has been done so far and describe the approach we use in the heart failure disease-management program at The Cleveland Clinic Foundation.

HEART FAILURE ON THE RISE

The incidence and mortality rate of heart failure due to systolic left ventricular dysfunction are increasing in the United States, for several reasons. More people are surviving to old age with conditions that place them at risk of heart failure, such as hypertension, coronary artery disease, diabetes, and obesity. Paradoxically, advances in the treatment of myocardial infarction and unstable angina are also to blame—more people are surviving heart attacks only to develop heart failure later.

Most research in heart failure is directed at treating the earlier stages. We have seen exciting advances in drug treatments (eg, angiotensin-converting enzyme [ACE] inhibitors, beta-blockers, aldosterone inhibitors, natriuretic peptides), cardiac devices (biventricular pacing, left ventricular assist devices), and surgery (infarct exclusion, endoventricular reconstruction).
Heart failure is a major public health problem in the United States. While the prevalence of most other cardiovascular diseases has declined dramatically over the past several decades, heart failure prevalence has increased markedly. Approximately, 4.6 million Americans currently have heart failure, and about 4000,000 new cases occur each year. The prevalence of the disease increases with age, affecting approximately 1% of persons in their fifth decade and nearly 10% of those aged 80 to 80.

A) Halting the progression of heart failure: Finding the optimal combination therapy.
B) Heart failure: Who will pay for the coming epidemic?
C) Heart failure is a fever: Inflammation and the etiology of heart failure.
D) A disease-management program for heart failure: The Cleveland Clinic experience.
E) ACE inhibitors and angiotension-receptor blockers: Is one class better for treating heart failure?
ACE inhibitors vs ARBs:
Is one class better for heart failure?

ABSTRACT
Although angiotensin-converting enzyme (ACE) inhibitors decrease mortality in heart failure, they incompletely suppress angiotensin II with long-term therapy. Since angiotensin receptor blockers (ARBs) block the biologic effects of angiotensin II more completely than ACE inhibitors, they could be beneficial in the treatment of heart failure.

KEY POINTS
In the ELITE-II trial, the ARB losartan was found to have no mortality benefit over the ACE inhibitor captopril. Thus, ACE inhibitors should remain first-line treatment for heart failure.

For patients who truly cannot tolerate an ACE inhibitor, ARBs are reasonable substitutes and provide excellent tolerability.

The CHARM study will help to delineate the use of ARBs either instead of or in addition to an ACE inhibitor in patients with heart failure.
confirmation test has not occurred, since there has never been a confirmed positive test for a drug reported to the MRO in the first place.

The current regulation, in spelling out the procedure for requesting a test of a split specimen, provides that a request must be made within 72 hours of a verified positive test. (The MRO verifies a confirmed laboratory test as positive if the MRO cannot determine that there is a legitimate medical explanation for a laboratory confirmed positive test result.) In the absence of a confirmed positive test, there can never be a verified positive test, which is the trigger for the employee's opportunity to request a test of the split specimen.

The current regulation further provides that if the test of the split specimen fails "to reconfirm the presence of the drug(s) or drug metabolite(s) found in the primary specimen," the test must be canceled. In a case involving a finding of adulteration or substitution, there has never been a reported finding that drug(s) or drug metabolite(s) are present in the employee's specimen. One cannot "reconfirm" a finding that has never been made. The regulation requires cancellation of a test only if the presence of drug(s) or drug metabolite(s) is not reconfirmed in the split specimen.

In addition to the use of split specimen testing in adulteration or substitution cases not being legally required, the first option is supported by three policy considerations. First, the Department is very concerned that present adulterants and other interfering substances may degrade over time. That is, when an adulterant is present in the primary specimen but degrades chemically to the point where it cannot be detected or changes to another chemical state in the split specimen (e.g., HHS has recently identified one adulterant that appears to degrade in a matter of hours), our making split specimen testing available for adulterants could help drug users "beat the test." In addition, manufacturers of commercial products intended to defeat drug testing—who engage in a well-publicized "arms race" to find new means of defeating drug tests—may well be able to develop, in the future, adulterants that degrade even faster.

Second, the Department's experience is that the overwhelming majority of test cancellations related to split specimens result from collection or logistical problems (e.g., collector fails to collect the split specimen, a split specimen is lost or leaks in transit). The Department has been reluctant to expand the application of split specimen testing to areas where it is not required by statute, which could have the result of canceling otherwise valid tests and allowing drug users to continue to perform safety-sensitive functions.

Third, the Department has viewed an adulterated or substituted specimen as more closely analogous to a refusal to test than to a positive test. Employee A flatly tells the collector that he will not provide a specimen, or simply does not show up for the test. Employee B shows up, provides a specimen, signs the statement on the custody and control form certifying that he or she has not tampered with the specimen, but nevertheless puts a substance into the specimen that prevents the laboratory from testing it. The actions of Employee A and Employee B are equivalent. Having a second opportunity to defeat the testing process is no more appropriate for Employee B than for Employee A.

The second and third options would both add a further element to the language in the proposed regulatory text. The Department seeks comment on all three options, as well as any other suggestions commenters may have on this subject.
SAFETY HANDBOOK FOR NASA EMPLOYEES

BEFORE:

The purpose of this chapter is to provide minimum safety requirements for the handling and use of the more commonly use cryogenic substances and to identify specific precautions, emergency treatment (Attachment 204A, Appendix B), protective clothing and equipment guidelines, training requirements, and housekeeping information.

Requirements set forth in this chapter shall apply to all JSC personnel performing operations that require the use, handling, or storage of cryogenic materials. Liquid oxygen or liquid hydrogen used as propellants shall follow the requirements of chapter 206, “Explosives and Propellants.”

Each supervisor involved with cryogenic substances shall thoroughly understand the hazards involved, the safe handling methods, work procedures and emergency procedures, and ensure that these procedures are understood and strictly followed.

Facility managers shall be familiar with the cryogenic safety and emergency procedures to ensure that they are implemented in the workplace. Each employee working with cryogenic substances shall thoroughly understand the hazards involved, safe handling methods, work procedures, and emergency procedures.

WORD COUNT: 158
This could be you…
Two technicians passed out while transferring liquid nitrogen from a truck because nitrogen spilled into the loading dock and displaced oxygen in the area. They were rescued and are OK. A liquid helium dewar ruptured. Fortunately, no one was in the room at the time. A liquid nitrogen dewar exploded and sent glass fragments flying. Fortunately, the technicians working with the dewar were not in the path of the flying glass.

You must follow this chapter if you:

a) Handle, store, or transfer cryogenic liquids as part of your job.
b) Handle or work around gaseous nitrogen, oxygen or hydrogen.
c) Supervise anyone who does the above tasks.
Your Body’s Many Cries For Water

Because of a gradually failing thirst sensation, our body becomes chronically and increasingly dehydrated from an early adult age. With increase in age, the water content of the cells of the body decreases, to the point that the ratio of the volume of body water that is inside the cells to that which is outside the cells changes from a figure of 1.1 to almost 0.8. This is a very drastic change. Since the “water” that we drink provides for the cell function and volume requirements, the decrease in our daily water intake affects the efficiency of cell activity. As a result, chronic dehydration causes symptoms that equal disease when the other signals of dehydration are not understood -- as they are not at present, since these signals are treated as abnormal and dealt with by the use of medications.
Your Body Cries For Water

From early adulthood, we gradually feel less thirsty, with the result that we drink less water and our bodies become increasingly and chronically dehydrated. As we age, then, the water content of our cells decreases so much that the ratio of the water inside the cells to that outside falls from 1 to 1 to almost 0.8 to 1 -- a drastic change. Volume requirements and cell function depend on the water we drink, so the decline in our daily intake means that cell efficiency declines as well and leads to signs and symptoms that are mistaken for disease, which is then treated with medication, because chronic dehydration (the real cause) is poorly understood.

Your Body May Be Crying Out For Water

As people age, their thirst sensation gradually diminishes. As a result, the body may become increasingly and chronically dehydrated. A decrease in daily water intake reduces the efficiency of cell activity and can cause symptoms that mimic disease. Unfortunately, because many people do not recognize the symptoms of dehydration, the condition may be treated with rehydration therapy but with other medications.