The Liker Health Report

Keeping People Focused on Staying Fit & Healthy

Spring 2007

The Liker Health Report is a quarterly publication intended to raise awareness of health-related issues and to encourage readers to take charge of their health and live healthier, more fulfilling lives.

INSIDE THIS ISSUE

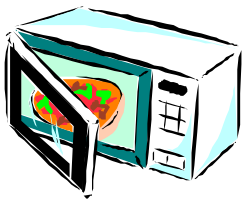
The Heart of the Matter: PLASTIC & DIOXINS

Perhaps you've received an email warning you of the dangers of freezing water in plastic bottles -- that you'll expose yourself to cancer-causing dioxins when you drink the water. If this sounds familiar, you're not alone. The Internet has been flooded with such emails, and some attribute their message to research done at John Hopkins University. This is a **myth** that has been perpetuated since 2004.

THE FACTS

A researcher at John Hopkins (Dr. Rolf Halden, Ph.D.) has been studying environmental dioxin contamination and has concluded that because there are no dioxins in plastics, drinking bottled water or previously frozen bottled water is not harmful. Since chemicals do not diffuse very easily in cold temperatures, it would be nearly impossible for any chemical to leach out of the plastic and into the beverage. That being said, Dr. Halden believes that the greater dangers is in the cooking and heating/re-heating of food in plastic containers.

Some plastic bottles and containers are manufactured with a group of chemicals called ***phthalates*** which make them flexible without being brittle. Phthalates have hormone-like activity and can interrupt endocrine processes in humans and animals. They are known environmental toxins. Dr. Halden believes that heating plastics can leach the phthalates from the containers into whatever food or beverage was contained it. This is because, generally speaking, the heating process increases the likelihood that chemicals are released.



Chemicals can be released from the plastic packaging used in microwave meals and plastic wrap. Many microwave meals come in packages specifically designed to be heated, and should be used only as directed on the package (i.e., cooking time and temperature). Re-using the container is not recommended. A better alternative for cooking or re-heating food would be to use microwave-safe glass or ceramic containers. Plain paper towels (without printed designs) can be used to cover containers instead of plastic wrap or to wrap around food when heating. Use stainless steel utensils to consume hot foods instead of plastic and do not drink hot beverages with plastic straws.

Taking care with how you prepare your food is becoming increasingly important as what you eat.

For more info on dioxins, see Page 7.

Your Lifestyle: BALANCE TRAINING *by Steve Jordan*

A Complete Fitness Program Includes Balance Training

We usually think of fitness in terms of cardio-vascular efficiency, strength, and flexibility. We should add something else to the list -- balance training. For most of us, staying steady under ordinary circumstances like walking, running, and standing, is easy. We take it for granted. But, it is only easy because of years of experience beginning with those first tentative infant efforts to sit up and the many early failures when gravity prevails.

Proprioception is the ability of your body to interpret and use information about your position in space. Through a complex system of environmental feedback translating cues from the bottom of your feet, the relation of your inner ear to gravity, and from visual cues, your body senses which muscles to switch on or off to maintain your desired position. When the information received is too complex to process, the system is overwhelmed and balance is lost. With experience, even the most challenging circumstances can be mastered. Learning how to ride a bike, ice skate, ski, or tightrope are examples of difficult, dynamic challenges to equilibrium and balance that are mastered in exactly the same way an infant learns to sit, crawl, walk, and run.

If you have ever experienced an inner ear infection, you know just how well your sense of balance ordinarily works because when the system malfunctions, neurological chaos results. The world swims around you and you cannot bring it to order. An inability to settle space around your body and move freely in an upright position is one of the most unpleasant experiences a human can suffer. According to The National Academy of Sports Medicine, “balance ability diminishes markedly with age." From age 25 to age 75 the loss of balance ability can be a staggering seventy-five percent.

The good news is that balance can be improved and expanded from your baseline with practice. Improvements in balance can result in improvements in coordination, athletic skill, and posture resulting in fewer injuries, and greater stability as we age. Carrying this increased kinesthetic awareness and efficiency to the rest of your workout with running and weight training increases the effectiveness and safety of your over-all training. Many coaches and trainers add balance training to the tools they offer athletes.

I suggest the following simple test for you to use so you can evaluate your balance:

Stand with your feet in a line, with heel to toe contact, and close your eyes. If you can maintain your balance for 30 seconds, you have done well. If you're wobbling right from the start, your baseline balance ability is poor. How does this apply to your training? You don't need to run out and buy a unicycle. You can try adding five to ten minutes of balance exercises to your warm up or cool down. Standing on one leg, walking across a low beam, standing on a mini-trampoline, and using large gymnastic balls in a variety of ways can all challenge and improve your balance.

Look for safe ways to introduce new balance challenges into your routine. Challenging your proprioceptive system will improve your balance the same way increasing running will improve your running performance.

Did You Know?

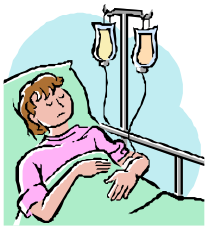
By conservative estimates, one-fourth of all bottled water comes from municipal water sources (tap water).

Personal Health: END-OF-LIFE ISSUES

The last issue of The Liker Health Report discussed some issues related to the type and extent of care that terminally ill patients and their families must choose. This issue will address the physical symptoms that accompany fatal illnesses. Being aware of what a dying person experiences can better prepare loved ones.

PAIN

Pain is a common symptom, but one that can be easily mitigated with analgesics such as Tylenol and aspirin for mild pain, or opioids such as codeine and morphine for moderate to intense pain. Oral opioids are effective for several hours and may be all that is needed in the early stages of dying; stronger opioids administered by transdermal patch, injection, or continuous infusion may be needed later. Because effective pain relief is available, doctors do not hold back until the pain becomes intolerable; they treat the pain as much or as little as the patient requests. Opioid addiction should not be a concern for family members, as these medications reduce the patient's physical suffering.



BREATHING DIFFICULTY

Shortness of breath, or the sensation of struggling to breathe, can be extremely unpleasant. Anxiety can exacerbate the condition. Administering oxygen, relieving fluid build-up in the lungs, re-positioning the patient, or utilizing cortico-steroids to reduce swelling in the airways can make breathing easier. Chronic shortness of breath can be alleviated with opioids which also help the patient to sleep easier. As the point of death comes closer, a higher dose of opioid can be administered to dissipate the perception of shortness of breath, even possibly rendering the patient unconscious. This is something that the patient and/or family members should discuss in advance with the doctor.

LOSS OF BOWEL & BLADDER CONTROL

The disease and/or general weakness can lead to the loss of bowel and bladder function. Disposable diapers, urinary catheters, and special attention to hygiene will ensure as much dignity to the dying patient as possible.

DIGESTIVE PROBLEMS

Digestive problems are typically the result of the disease process, however, they can also be the result of medications used to treat the disease. **Decreased appetite** is inevitable and may be the body's way of helping the patient die more comfortably. Family members should not try to force patients to eat, as it will neither help them keep their strength nor will it cause any further problems. As the heart and kidneys begin to fail, reducing the food and liquid intake actually helps the patient. **Dysphagia**, or **swallowing difficulty** often occurs in patients who have had a stroke, have an obstruction in the esophagus due to cancer, or have advanced dementia. Choosing foods that are easy to swallow or changing body position may facilitate swallowing; if this doesn't help, tube feeding can be utilized if the patient or family members request it. **Nausea and vomiting** can be the result of advanced disease, an intestinal obstruction, or medications. **Intestinal obstructions** may require surgery if the patient's life expectancy exceeds the surgery and recovery period and whether the surgery will do more good than harm. Anti-nausea medications may relieve symptoms, as well as other comfort measures. **Constipation** results from decreased food intake, lack of physical activity, and some medications, including opioids. Abdominal cramping may accompany the constipation; both can be relieved with laxatives, stool softeners and enemas.

BEDSORES

Patients who are confined to bed or have limited mobility are susceptible to bedsores. Pressure from a person's body weight can tear the skin which can in turn, become infected. Changing body positions regularly and moisturizing the skin can decrease the chance of bedsores developing.

FATIGUE

Fatigue is caused by an illness' physical burden on the human body. A lack of quality sleep may worsen the problem. Patients should be encouraged to save their energy for the "important" things they need or want to do.

continued on page 6.

The Inside Story: CLINICAL TRIALS

Medical research is critical to the development of new medications and therapies to treat acute illnesses and chronic diseases. Three types of research include laboratory studies, animal studies and human studies. The progression of research is to begin in the test tube or an animal model, and if there is efficacy there, then to study the drug in humans. Because a drug works in the laboratory experiment doesn't always mean that it will be effective to treat a human disease.

Clinical trials are conducted once there has been some evidence of success in either laboratory experiments, animal models, case studies, or observational studies. These rigorous and highly regulated research methods are designed to determine the safety and efficacy of new drugs, treatments, medical devices, and new uses for existing drugs. The Food & Drug Administration (FDA) regulates clinical trials to protect the research participants and has final say when approving a new treatment for patient use. The FDA dictates that an independent committee of medical professionals, termed the **Institutional Review Board** (IRB), must review a study's protocol to ensure that the subjects' rights and safety will be protected. The IRB also evaluates the protocol to determine whether the study has been well designed to accomplish a scientific gain.

The gold standard in clinical trials is the **randomized, placebo controlled, double-blind study**. Study participants are first randomized, or randomly assigned, to either the treatment group (they will receive the test drug) or the placebo group (they will receive the "sugar pill"). In a double-blind study, neither the subject nor the researchers know who is receiving treatment and who is receiving the placebo. This is more objective than a single-blind study in which the researchers know who is receiving treatment. These studies are also more costly, but provide the most reliable results.

TYPES OF MEDICAL RESEARCH

- **Laboratory Studies** -- utilize microscopic cells from humans or animals and organisms such as bacteria, viruses, and yeast.

- **Animal Studies** -- utilize animals; mice studies are valuable because mice are a good model of how the human body works.
- **Clinical Trials** -- utilize human subjects on a large scale to investigate human diseases.

TYPES OF MEDICAL RESEARCH IN HUMANS

- **Case Study** -- a report on the response to treatment of a single patient.
- **Observational Study** -- a report based on the observations about how a group of patients responded to treatment.
- **Clinical Trials** -- a report on the comparison of how different groups of patients responded to treatment(s) and no treatment (placebo).

Clinical trials investigating new drugs typically go through three phases before the FDA approves the drug and a fourth phase after approval. In each of the phases, researchers evaluate the safety, side effects, effectiveness and ideal dosage. A **Data Monitoring Committee** convenes while the research is in progress to review the data collected by the researchers. Much like the IRB, the Data Monitoring Committee is comprised of independent medical professionals who have no connection to the researchers. Upon reviewing the data, the committee has the power to stop the study if there is evidence that the drug us either unsafe or has no health benefit. Similarly, if there is evidence that the drug is significantly more beneficial than existing drugs, the committee can approve the drug for study participants who were receiving placebo even before the trial's scheduled completion date.

Did You Know?

Unblinded studies are subject to personal beliefs and biases on the part of both researchers and subjects.

Phase 1 Clinical Trials

- involve small groups of 20-80 participants.
- goal is to study the drug's effectiveness; establish dosage safety; and identify any side effects.

Phase 2 Clinical Trials

- involve larger groups of 100-300 participants.
- goal is to study the drug's effectiveness and further evaluate its safety.

Phase 3 Clinical Trials

- involve larger groups of 1,000 to 3,000 participants.
- goal is to confirm the drug's effectiveness; monitor side effects; compare drug to existing medications; and establish parameters for safe use in the general population.

Phase 4 Clinical Trials

- involve looking at the general population taking the drug after it has been approved by the FDA.
- goal is to gather data on any unforeseen side effects due to long-term use of the drug.

Participating in Clinical Trials

Participating in medical research has its pros and cons, and it's a highly personal decision. For some people, there is great satisfaction in knowing that their participation is advancing society's knowledge of medicine. Participants are likely to have access to new medications which may help their specific condition (if they are in the treatment group). However, the odds of being randomized to the placebo group are also likely, and participants would not receive a health benefit for the duration of the study. Treatment group participants may experience side effects of the new drug or learn that it has no effect at all. Clinical trials involve time, expense, and possible physical discomfort, all of which are explained in the **informed consent**. If you are unsure about the risks and benefits of participating in a clinical trial, speak with your personal physician.

Interpreting Medical News

Most people get their heath news from the media, whether it be television, the internet or magazines. New studies are emerging daily, and it can be difficult or even frustrating to keep up with everything. It often seems that a study's findings are reported one week and there's a conflicting study the next. Here are a few questions to ask yourself when trying to digest it all:

- Who were the "subjects" -- a bacteria in test tube, animals, or humans? Research done in humans is more applicable to you.

- Were there enough subjects similar in background to yourself -- similar age group, gender, ethnic background, education level? For example: If a sunscreen study was done on Hawaiian men over seventy-five, it may not be as applicable to a twenty-four year old female living in Canada.

- Where was the research done? Research conducted at large universities or hospitals benefits from more experience and the ability to recruit a wider diversity of participants.

- Was the study a randomized, placebo controlled, double-blind study?

- Were there any side effects to a new drug and were those side effects worse than the disease?

- Lastly, who funded the research and does that entity stand to gain financially from either positive or negative results?

On-Going Recruitment for Clinical Trials

- **www.clinicaltrials.gov**
  Database of over 5,000 clinical trials sponsored by the federal government and the pharmaceutical industry
- **www.cancer.gov**
  Database of over 1,800 cancer clinical trials sponsored by the National Cancer Institute
- **www.clinicalstudies.info.nih.gov**
  Database of all clinical trials conducted at the National Institutes of Health in Bethesda, Maryland

Personal Health: END-OF-LIFE ISSUES *continued from page 3*

DEPRESSION & ANXIETY

A dying patient's mental health is just as susceptible to disease as his or her physical health. Depression and anxiety often emerge when a person contemplates the end of life. Depression is more than feeling sad, an otherwise completely normal response. True depression is characterized by a lack of interest in all that is happening around the patient; a solely negative outlook; and lack of any emotions. Because depression is caused by a chemical imbalance in the brain, anti-depressants can be prescribed to improve the quality of time that the patient has left. Counseling by a mental health professional, a member of the clergy, or family and friends can also improve the patient's remaining time.

Anxiety can be equally debilitating. It's alright to feel worry, but anxiety is characterized by such intense worry and fear that it interferes with the patient's day-to-day going ons; thoughts of dying are all-consuming. Anti-anxiety medications and counseling can be beneficial. Additionally, if patients feel that they have too much to do in preparation for death, caregivers can offer their assistance to perform some of the tasks.

CONFUSION & UNCONSCIOUSNESS

Infections, medications and/or medication interactions, and unfamiliar surroundings (i.e., a hospital room) can cause mental confusion in people who are very ill or dying. Dying patients who are confused are not cognizant that they are dying. Family members can reassure patients, but if the confusion leads to extreme anxiety or potential harm, a mild sedative may be prescribed. Interestingly, some dying patients have episodes of coherent thinking and verbalization in their final days. Family members mistakenly believe that their loved one's condition has improved, but experts agree that this phenomenon is just part of the dying process.

During the final days, dying patients are unconscious most of the time, and many die peacefully in their sleep. Family members often find it comforting to sit with the patient and say their final good-byes.

Predicting when a loved one will die is not always an easy task for doctors; they rely on personal experience and data on patients with the same condition to make the most realistic prognosis. Many of the diseases afflicting us today including Alzheimer's disease, kidney failure, liver failure, emphysema and other chronic illnesses, lead to a gradual decline in functioning over a long period of time. Patients may be "dying" for many years and the symptoms are obvious to observers. The slow decline with chronic heart disease is similar, but death is usually brought on suddenly by an irregular heart rhythm. In contrast, cancer patients experience a rather rapid decline in the last one or two months; they may look otherwise healthy until that time in which their energy level, overall functioning, and well-being diminishes dramatically.

In the final days or hours, there are typical signs that death is near. The patient's legs and arms may be cool to the touch due to decreased circulation; however, the torso will feel warm. The fingers, earlobes, lips and nail beds may turn blue. A blotchy purple coloring on the legs is one of the clearest signs that the end is near. The patient may lose consciousness and breathing may become irregular. Noisy breathing (the "death rattle") is caused by throat secretions and relaxing throat muscles. The patient does not suffer as he or she is unconscious, but family members may be comforted by treatments that minimize the noise.

At the moment of death, there may be some involuntary muscle contractions. The heart can beat a few minutes after breathing has ceased and a seizure is possible.

LEGAL MATTERS

An authorized person such as a physician is required to pronounce a person deceased and to certify the cause and circumstance of the death. Requirements vary across states. If a person decides to die at home with hospice care, the hospice nurse will explain the specific requirements to the family so they will know what to expect. A death certificate is required for insurance claims, accessing financial accounts, and settling the person's estate.

Plastic Containers & Dioxins

continued from page 1

So, What Are Dioxins?

Dioxins are toxic organic compounds and environmental pollutants. There are 210 different known dioxins which belong to either of two classifications -- chlorinated molecules of dibenzo-p-dioxin or chlorinated dibenzofurans. Some dioxins are man-made such as from the bleaching of wood pulp, from the manufacturing of pesticides and from the burning of household trash. However, "naturally occurring" dioxins are released during the combustion process of wild fires and volcanic eruptions. The dioxins are spewed into the air, fall back to the earth, and become absorbed in the fatty tissue of fish and animals who drink contaminated water; animals higher up on the food chain absorb more dioxins when they eat fish.

Exposure to dioxins can cause severe skin disease, liver damage, cancer and reproductive or developmental effects. Unfortunately, it's impossible to avoid dioxins, and everyone's body contains some, regardless of how and what you eat.

SUMMER FUN

Summer is just around the corner and so are the backyard barbeques and beach parties. With the warm weather, it's important to keep your food safe from bacterial contamination. Follow these guidelines for a healthy and enjoyable summer:

(1) For picnics, keep all refrigerated foods packed on ice and avoid foods that have been sitting out, especially foods containing mayonnaise.

(2) Refrigerate leftovers immediately.

(3) Cook meat and poultry so the juices run clear and there is no red or pink color inside.

(4) Refrigerate foods well below 40 degrees Fahrenheit and cook food to temperatures above 165° F.

(5) Wash hands with soap and warm water after touching raw meat, poultry, or eggs.

The Medicine Cabinet

Glucophage®

Treatment of Type 2 Diabetes

Generic Name: Metformin (met for' min)

Drug Classification: blood glucose regulator.

Purpose: controls type 2 diabetes; does not cure diabetes or treat type 1 diabetes.

Action: decreases the amount of glucose absorbed from food and decreases the amount of glucose produced by the liver; increases the body's ability to use insulin efficiently.

Dispensing Method: oral tablets taken with meals two or three times daily; extended release tablets are taken daily with the evening or largest meal of the day.

Major Precautions: Metformin can interact with other medications, so tell your doctor all prescription, over-the-counter, and dietary supplements you are taking. Discuss your alcohol consumption with your physician, as alcohol can cause unpredictable decreases in blood glucose levels. Follow dietary and exercise recommendations prescribed by your physician, including guidelines for days when you eat more/less or exercise more/less. If you miss a dose, take it as soon as you remember, but if it's close to your next dose, skip the missed dose; never take a double dose. Women who become pregnant while taking metformin should call their doctors.

Side Effects: diarrhea, bloating, stomach pain, gas, constipation, heartburn, unpleasant metallic taste in the mouth, headache, sneezing, cough, runny nose, flushing of the skin, muscle pain. If any of the above side effects become worse, notify your physician. **SERIOUS**: chest pain or rash -- call your doctor immediately.

As with any medication, always follow your doctor's instructions, and if you have any problems, side effects, or questions, follow up with your doctor or pharmacist.

What's the Message?

FOR YOUR **DIOXIN AWARENESS**:
Drinking bottled water that has been previously frozen is not hazardous to your health.

Avoid heating food and beverages in plastic containers or plastic wrap, if possible.

FOR YOUR **EXERCISE AWARENESS**:
The body's proprioceptive system is responsible for balance which diminishes with age.

Include balance training in your exercise regimen in addition to cardiovascular, strength, and flexibility.

FOR YOUR **END-OF-LIFE AWARENESS**:
Understanding the physical and mental symptoms that accompany fatal illnesses can help you prepare for the dying process.

Caring for someone who is dying can take an enormous toll on one's mental and physical health. Caregivers should seek professional help if they feel overwhelmed.

FOR YOUR **RESEARCH AWARENESS**:
Well-designed, scientifically-sound medical research has a positive impact on society's health and well-being.

Carefully evaluating the medical news you hear about from the media will help you decipher whether it's valid and applicable to your specific health situation.

Dear Dr. Liker... For good health, should I drink bottled water or just plain tap water?

The most important consideration is making sure that you drink ***enough*** water. However, when it comes to choosing between bottled water and tap water, you should consider the source. The municipal water supplies in large cites are generally very safe. If you live near a large agricultural area, water can be contaminated with *E. coli* or other bacteria and chemicals that are the by-product of large farming operations. Your water municipality monitors the water contamination regularly and determines whether it is safe to drink. You can request a copy of your municipality's water report or check online.

Since many bottled waters only contain purified tap water (city water that has been treated), your money may be better spent elsewhere. Even "spring water" from natural springs can contain impurities such as bacteria and pollutants. "Artesian water" from aquifers deep within the earth provide the purest water, and is the ideal choice. Read the labels on your bottled water -- you might be surprised.

HL

Keeping People Focused on Staying Fit & Healthy

LIKER CONSULTING, INC.
The Center for Executive & Corporate Health

Harley R. Liker, M.D., M.B.A.

9675 Brighton Way, Suite 350
Beverly Hills, CA 90210

E-mail: hliker@mail.com
www.likerhealthreport.com

Publisher and Editor-in-Chief -- Harley Liker, M.D., M.B.A.
Senior Editor -- Karen Edwards, M.S.