

INTERNATIONAL HEALTH NEWS

William R. Ware, PhD - Editor

NUMBER 272

NOVEMBER 2016

25th YEAR



Readers of IHN are well aware of the editor's strong views regarding absolute vs. relative presentations of clinical study results, and that he is not alone. However, the issue is not really simple. The message conveyed to the patient by this approach may cause more harm than good. In fact, one can take the opposite view and suggest that numbers needed to treat be declared taboo, and authors should be encouraged if not forced to omit absolute results and make calculations buy the reader near impossible. Perhaps even the website NNT.com should be forced off the internet in spite of the fact that is a highly professional undertaking. These issues relate to the problem summed up by the old saying "what you don't know won't hurt you." Sticking to relative risk reductions, it can be argued, is best for the patient. It provides hope, albeit generally totally false, which in its self has significant therapeutic value, and it encourages adherence to prescribed therapy. However, this ignores the ethical problem associated with withholding information necessary for a patient to reach an informed consent.

If we go back far enough, it was common practice, especially with cancer, to conceal a bad prognosis from a patient in order not to create more problems than already present. Nevertheless, in the final analysis, what is at issue here is risk vs. benefit. If a treatment or drug had no side effects, then even if only 1-2% benefit, why not do it? Avoid alarming the patient that 98-99% do not benefit, especially if there is nothing better that standard practice has to offer. But this is an unusual situation since for most drugs there are both known and unknown side effects that when known, range from bothersome to serious and can even impact the quality of life dramatically. Unknown or suppressed risks are a serious problem. When researchers force pharmaceutical companies to release the raw patient data for independent reanalysis, a rare event, sometimes a much larger set or frequency of side effects is found. For example, non-industry supported studies find much greater risk of diabetes associated with statins than is found in the industry clinical trials.

Full disclosure involves encouraging the patient to find something better, mostly in what is described as alternative medicine, but this is a mixed bag. Few would argue with more exercise, better or more appropriate diet, and less psychological stress, and all of these actions are justified by research, but adoption and adherence is obviously more challenging than taking a pill but might be potentially beneficial when added to the drug approach.

However, many of the alternative approaches found by consulting Dr. Google have little if any real evidence and some may also be dangerous. Alternative medicine suffers by being starved for funds and in general unable to conduct clinical trials and thus one has to be very careful. The bottom line appears to be that recommendations for both prevention and therapeutic are not a simple matter, large and significant human variability enters into the side-effect issue, and finding something better than a conventional approach which leaves almost all those treated with little or no benefit will remain a challenge. In this newsletter there is no point in discussing drug therapies unless the true picture is presented, but the “doctor’s dilemma” remains.

Wishing you and your family continuing good health,

William R. Ware, PhD, Editor

Highlights

Effectiveness of BP-lowering therapy	p. 5
Salt restriction not for everyone	p. 9

SEPSIS. ALWAYS BE ON THE ALERT

This piece was prompted by an article in the September 19 *New York Times* titled *Could It Be Sepsis? C.D.C. Wants More People To Ask*. The article claimed that many Americans have never heard of sepsis and do not know the signs and symptoms. While a contributing factor to up to half of all hospital deaths, most cases (80%) start in the community and if not recognized quickly can have fatal consequences. However, it can occur after hospital discharge and traced back, for example to recent surgery.

Sepsis, historically called septicemia, is a complication associated with the body being overwhelmed and experiencing a life-threatening response to an infection.^{1,2} This response can cause inflammation in the entire body triggering a cascade of changes, including blood clots, leaky blood vessels, impaired blood flow to organs, and leads to varying degrees of organ failure and even tissue death. The problem is the speed at which this can happen and thus delayed diagnosis can be fatal. We are talking about a day or two not days after sepsis has become acute.

Medicine commonly views sepsis as a three-stage syndrome. First there is sepsis associated with an infection followed by severe sepsis and then septic shock. The infection can be in the lung, urinary tract, gut or simply an infection having its origin in an injury or irritation of the skin. Signs, symptoms and progression and other aspects listed online by the CDC or the Mayo Clinic are:

Sepsis

For sepsis to be suspected there should be at least two of the following symptoms plus a probable or confirmed infection:

- Shivering, feeling very cold or feverish
- Extreme pain or discomfort
- Clammy or sweaty skin
- Confusion or disorientation

The above are rather general and common. However if two of the three below are present, sepsis must be considered as a tentative diagnosis and action taken at once. This means go to the nearest hospital emergency department. Express concern over sepsis at the ED. As a last resort call EMS. The responders are generally well-versed in identifying actual or probably sepsis and will look for the following:

- Shortness of breath (higher than 20 breaths per minute)
- High heart rate (> 90 beats per minute)
- Body temperature above 101 F (38.3 C) or below 96 F (36 C)

Severe sepsis

Even one of the following can indicate that an organ may be failing or the situation has now become very serious and there is danger of fatal progression:

- Significantly decreased urine output
- Abrupt change in mental status
- Decreased platelet count
- Difficulty breathing
- Abnormal heart pumping function
- Abdominal pain

Septic shock

Diagnosis requires the presence of severe sepsis and generally extremely low blood pressure that does not respond to simple fluid replacement. This is the crisis point and now the mortality rate can be as high as 50%. The goal of sepsis awareness is to avoid either severe sepsis or septic shock or at least have these complications occur in the hospital and receive timely treatment.

Peritonitis and intra-abdominal sepsis

Peritonitis is the inflammation of the peritoneum, the membrane that lines the inner wall of the abdominal cavity. If bacteria escape the gastrointestinal tract and enter the peritoneal cavity, abdominal infections can occur and may result in sepsis. Appendicitis, diverticulitis and peptic ulcers can be involved as well as post-surgical trauma or medical interventions such as peritoneal dialysis and colonoscopy which can lead to intestinal perforation. After bowel surgery if a segment is removed, the failure of the junction between joined segments can also cause peritonitis. Patients need to be

aware of these potential causes and be alert for signs of the development of sepsis and act accordingly. Hospital staff will normally be alert to this possibility and thus post-discharge after surgery is when one must be especially alert.

Treatment

Treating the underlying infection with antibiotics is indicated, frequently by IV. Now we come to the problem about which we will be hearing more and more as governments only slowly react to the hazard. We are talking about antibiotic resistant infections, and the consequences can quickly be fatal. This is a problem that medical professionals are keenly aware of but unnecessary use of antibiotics still appears rampant. Furthermore, the use of antibiotics in managing farm animal infections and promoting growth is measured in tons. The FDA has asked farmers to be good citizens and go easy on antibiotics. To some this seems like too little and perhaps too late. Others see an amazing weak if not absurd response to a potential crisis of growing magnitude with no present solution. Rejection of the obvious solution and banning agricultural antibiotics, except when absolutely necessary, suggest the FDA position was political. In addition, there is a critical need for the development of new antibiotics but Big Pharma seems to have only mild interest.

Post-treatment issues

Antibiotic therapy is normally critical to rescue the septic patient, but there are associated complications in the microbiota (gut bacteria populations) that may be ignored. These are directly related to the dramatic effect intense antibiotic treatment has on the nature of the microbiota, its population, diversity and its functions, creating what is called dysbiosis. The prevalence of sepsis leads to a large number of survivors and many do not do well, especially those critical enough to require the intensive care unit. Studies show that 80% of septic survivors die within 5 years from lung infections, cancer and cardiovascular disease.^{3,4} Morbidity and mortality trends continue for at least 15 years post-discharge.⁵

One of the most promising interventions to prevent the effects of treatment-induced dysbiosis is normal microbiota restoration with donor fecal transplantation, an intervention which is the subject of much current interest and clinical trials, and it may be the best answer. It is important to realize that our gut immune system has evolved not only to allow the colonization of an enormous population of diverse microorganisms (10^{14}), but is inherently dependent on the absence of dysbiosis for proper function, the absence of which can cause susceptibility to many inflammatory diseases including asthma, irritable bowel syndrome, autoimmunity disorders, and the metabolic syndrome, to name only a few.³ In fact, dysbiosis needs to be viewed in the context of the overuse of antibiotics and even the advisability of elective C-section birth, the latter involving depriving the newborn of inoculation during the normal birth process that generally leads to a normal infant microbiome.

Prevention

This is a complex issue since it depends on age, status of the person's immune system, presence of disorders like type 2 diabetes which can result in failed injury healing. For

some diabetics, even a minor foot sore or cut requires urgent action. For example HIV, cancer treatments or anti-rejection drugs can weaken the immune system. Infections (skin, bladder, kidney, lung or gut) when identified or suspected should be called to the attention of one's physician. Prolonged diarrhea should never be ignored since it may indicate a serious gut infection. Such gut infections are terribly common in hospital inpatients and unfortunately may not respond to antibiotics. While undergoing treatment for a serious infection, the patient or family needs to be on alert for progression to sepsis.

Individuals with a parent or parents in a retirement home or nursing home need to be vigilant since infections that can progress to septic conditions may not be observed early by the staff which may not even appreciate the early signs of sepsis. This includes bedsores, a common problem in nursing homes. Failure of common home remedies or medical treatment for minor infections from cuts and bruises should prompt concern, especially if they become more severe and nothing is working. Worsening of chest cold symptoms suggesting the onset of pneumonia should trigger concern and action, since this lung infection can lead to sepsis. Acute respiratory distress syndrome (ARDS) is a leading lung disorder that frequently leads to sepsis.

BOTTOM LINE

it is important to keep in mind the three important signs of a possible progressing septic condition, **high or low temperature, shortness of breath (rapid breathing) and a rapid heartbeat** are all easily observed at home (see details above). Any two are cause for concern. Waiting too long to see what happens can be fatal. In addition, recognize that not all emergency department doctors may be accustomed to asking themselves, is this sepsis?

HOW EFFECTIVE IS BLOOD PRESSURE LOWERING THERAPY?

If we go back far enough, worrying about health issues was rare. Worrying about being eaten alive by some animal or done in with a spear was replaced by worry about infectious diseases and arthritis, disorders that were either serious or even life threatening or painful and perhaps disabling enough to cause worry. Antibiotics were developed during and after WW II and were miracle drugs in the successful fight against infectious diseases. Then along came blood pressure. As its relationship to stroke risk became better known blood pressure medications were developed. Diet, especially fat, and blood cholesterol followed as big concerns, the latter spawning cholesterol lowering drugs one after another. Today, if we restrict ourselves to health concerns, it is common to worry about ones blood pressure, cholesterol, and weight and joint pains. Mental health medicine lives in a strange world of its own.

Health issues cause some to become depressed and are treated with what are regarded as mostly ineffective drugs, sometimes more than one. Alzheimer's and Parkinson's disease have become sources of justifiable anxiety in later life, the so-called but oddly termed "golden years," since both respond only to symptomatic

intervention, are quite prevalent and carry grim prognoses. Blood pressure today is a key aspect of preventive medicine and the treatment of hypertension is one of the most common interventions in general medicine. Probably more individuals know their blood pressure than their cholesterol levels. The impact of elevated blood pressure on various health issues turns out to be somewhat complex and blood pressure is definitely something to worry about. (See IHN October 16).

Hypertension generally does not present with symptoms although some can tell when their BP is dangerously high from feelings in their head and headaches associated with elevated BP can occur. There is general agreement that normal BP is considered to be <120/<80, pre-hypertension 120-139/80-89, Stage 1 hypertension 140-159/90-99 and Stage 2 hypertension $\geq 160/\geq 100$ (systolic/diastolic). Stage 2 includes the so-called hypertensive crisis with a threshold of concern at 180/110 and requires immediate attention. A problem however arises in that hypertension generally is not accompanied by symptoms and therefore unless blood pressure measurements are routinely done, one has no idea regarding its presence and can even be unaware of a highly elevated level, the hypertensive crisis, which can have serious consequences such as organ damage, eye damage, stroke, and death if not treated. Some with a hypertensive crisis will experience a severe headache, shortness of breath, nosebleeds, or severe anxiety, but many have no symptoms to alert them to the impending dangers. Furthermore, a number of considerations enter into the decision as how fast to lower the BP under these circumstances.

For those who experience the above symptoms or engage in home measurements of BP, a reading of 180/110 or greater for systolic or diastolic should prompt immediate action, and generally the only satisfactory place to go is the closest hospital emergency department and if no transportation is available, it is appropriate to call emergency services. However, because an asymptomatic crisis can also occur, it can be argued that all adults should have a baseline BP and if hypertension exists or develops, home monitoring is the only way to play it safe and detect a crisis if it occurs. There are two approaches to measurement. One is commonly encountered in the doctor's office where a manually inflated cuff and stethoscope are used. It is much easier to use an automatic device and worth the small extra expense to get a good one. However, it is also common to incorrectly carry out home measurements. Here are the simple steps:

- Make sure you do not need to use the toilet, have not just eaten a big meal, and have not consumed caffeine or smoked in the last 30 minutes.
- Use the same arm each time. While sitting, the cuff is placed above the elbow. It should be at the level of the heart. This may require a pillow.
- Rest at least 5 minutes before starting, and do not cross legs.
- Follow the instruction provided with the BP device as to cuff position.
- While taking a reading keep still and silent.
- Repeat 2 or three times, 2 minutes apart and average the results. Most automated devices have a memory but make a permanent record.

- One should be aware that BP varies throughout the day. Abnormal results should be checked sometime later in the day.

Treating prehypertension naturally would normally involve non-drug interventions such as diet, exercise and weight loss. The subject of pediatric and young adult hypertension was discussed in the last issue of IHN. The diagnosis of hypertension almost certainly will result in a recommendation to treat, either with these interventions or with drugs, or both. At issue is preventing fatal or non-fatal cardiovascular events or all-cause mortality, but a more comprehensive list would include aneurysm rupture, aggravation of kidney disease, damage to blood vessels in the eyes, and cognitive problems. Some of these would of course influence all-cause mortality. High BP is also one of the risk factors associated with the metabolic syndrome. Studies of drugs rely mostly on endpoints such as cardiovascular events.

Readers of IHN will realize that absolute results and numbers needed to treat to prevent one event are essential to get a true picture of treatment efficacy and thus gain meaningful perspective as to how well drug therapy really works. In 2014 a paper appeared involving meta-analysis of a large number of randomized controlled studies that provided just such information without the reader needing to do any calculations.⁶ The controls were either untreated or minimally treated subjects. The absolute results (ARR %) were based on risk ratios adjusted to a decrease in of blood pressure of 10/5 mm Hg and 5-year follow-up and the highlights are given in the table below for two endpoints, stroke and coronary heart disease events and as well cardiovascular mortality events. Baseline CV risk was estimated from the event rate in the control arms of the studies. They used a 10-year risk of < 5% as low to moderate, 5% to 10% as high, 10% to < 20% and very high and >20 % as extremely high.

Table1. Meta-analysis results of drug BP-lowering randomized controlled trials stratified by baseline risk of stroke and cardiovascular events and cardiovascular related deaths.⁶ See above for definitions of baseline risk. Follow-up was on average 5 years and the absolute results calculated by the authors of the study.

Baseline CV risk in controls	STROKE AND CHD		CVD MORTALITY	
	% ARR	% No benefit	% ARR	% No benefit
Low to moderate	0.7	99.3	0.1	99.9
High	2.8	97.2	1.0	99.0
Very high	3.4	96.6	1.0	99.0
Extremely high	3.1	96.9	2.9	97.1

The efficacy of BP-lowering clearly depends on the endpoint and as well, the baseline endpoint risk. The number of studies used in the meta-analysis ranged from 2 to 11. Unfortunately, it would appear from these numbers that BP-lowering with medication is not having a very great impact on the events it is attempting to prevent. The decrease in BP used to standardize the results appears typical of such studies. Risk/benefit analysis is complicated by the absence of sufficient data on adverse side-effects.

However, this view involves an oversimplification. There is the problem of how long and over what age range the hypertension was left untreated, since this determines the vascular and organ damage that progressively occurs, as was discussed in the last issue of IHN. However, to some extent, this is taken into account by stratification by CV risk which being event-based, takes the residual risk into account. Furthermore, one might wonder if more intensive BP lowering would have produced better results. Consider the recent study that compared standard with intensive treatment (SPRINT).⁷ In SPRINT the standard treatment mean systolic BP dropped from 140 to about 135 whereas the intensive treatment yielded a change from 140 to 120 or a change of 20, and 120 was the target. The primary outcome was heart attack, stroke, heart failure, and cardiovascular related mortality. For this composite endpoint, the absolute risk reduction when standard vs. intensive therapy was compared was over 4 years 2.2% and for cardiovascular related mortality, 0.9%. For these two results, 97.8% and 99.1% did not benefit. Intensive therapy is also occasionally associated with episodes of severely low BP which can be life-threatening. This side effect along with related fainting, electrolyte abnormalities and acute kidney injury were more common in the intensive treatment group compared to those on standard treatment. In fact, the absolute risk increase for kidney injury or failure was 1.8%, i.e. comparable to the primary endpoint benefit.

The above results could be interpreted as encouraging the attempt to lower BP naturally but the ample data such as represented by the above meta-analysis is not available from non-drug studies. It must also be borne in mind that if elevated BP is left untreated, as discussed in the October IHN, vascular and organ damage progresses, and when finally BP is lowered there is a residual risk which is significant. Thus early intervention is still an important action and this will only occur if BP is monitored from an early age and attempts made to never allow hypertension to occur which presumably can be accomplished without drugs but perhaps not easily. However, it remains to be seen to what extent the residual risk or the vascular and organ damage can be reduced or eliminated by early intervention by adding a set of natural interventions which might reduce the BP significantly.

Another issue in the efficacy of BP treatment concerns secondary prevention of a CVD event, i.e. in patients with prior cardiovascular disease. A follow-up study of over 22,000 subjects examined the risk of fatal and non-fatal heart attack and stroke on BP levels in treated individuals with stable coronary heart disease.⁸ The study was identified by the acronym CLARIFY and indeed clarified the association and highlighted the increased risk associated with hypertension in this group of individuals. Stable coronary heart disease was defined as having had a heart attack, angiographic demonstration of more than 50% coronary artery blockage, chest pain associated with blockage, coronary artery bypass or balloon angioplasty. The results are given in the table below, stratified by the resultant or treated systolic BP (SBP).

Table 2. Effect of blood pressure lowering with drug treatment in secondary prevention of fatal and non-fatal heart attack and stroke over 5 years.⁸

Treated SBP	Mean SBP	% Absolute 5-year risk increase	% Relative risk increase
< 120	114	4.9	56
120 – 129	126	Reference value	Reference value
130 – 139	134	0.6	8
140 – 149	145	3.7	51
≥ 150	159	9.9	150

Essentially identical absolute results are obtained with either the crude event rates or the absolute risk increase calculated from the fully adjusted risk ratios. Of note is the approximate 10% absolute increase in risk that appears during stage 1 hypertension (see above) at ≥ 150 systolic BP, and the increased risk below a BP of 120. Thus the results generate a J-shaped curve. The same J-shaped result was found with cardiovascular associated mortality or hospital admission for heart failure. The pathophysiology of the J-shaped results is not clear. Of note also is that there was no significant effect observed below a systolic BP of 140 until the 120 systolic threshold was reached for increased risk. The authors also comment that:

“Our observations are in agreement with the fact that after decades of hypertension trials, the benefit of lowering blood pressure to less than 140 mm Hg remains questionable, whereas the benefit of lowering blood pressure to less than 130 mm Hg is uncertain.”

SALT RESTRICTION IS NOT THE ANSWER FOR EVERYONE

If one believes US government guidelines or recommendations from the American Heart Association (AHA), severe salt limitation is an important answer for preventing hypertension. The food industry is being called upon to decrease added salt. Chefs trying to prepare “healthy” meals may end up producing somewhat flat tasting meals unless spices replace salt. The government recommends a limit of 2.3 g/day whereas the AHA likes less than 1.5 g/day. However, there appears to be little evidence for these recommendations, and in fact quite the contrary, the limits appear to be associated with increases rather than decreases in exactly the acute events at issue.

A study just published by Mente *et al* in *The Lancet*⁹ confirms what the critics have been saying for several years, as discussed in the April 2016 IHN. They studied 133,000 individuals, roughly half with hypertension and half without. The outcomes examined were death and major cardiovascular disease events over 4.2 years and 24-hr urinary levels of sodium were used as a surrogate for daily sodium intake. Graphs of the event risk quantified by hazard ratios (based on the ratio of events observed and control events) found for a reference intake of 4-5g/day, the intake of minimum risk, exhibited a U-shaped curve for hypertensives with increasing risk above an intake of

about 5g/day as well as a risk increase below about 4 g/day, with the rise in risk much stronger below 4 g/day. For non-hypertensives, there was negligible increase from about 5 to 12 g/day. Over the range of 3 g to 7g/day, Mente *et al* found approximately a 2 mm Hg increase in diastolic pressure per g of sodium for hypertensives and 1.2 mm Hg per g for non-hypertensives. The same general picture was found by O'Donnell *et al.*¹⁰

Thus for someone without hypertension, sodium intake is only an issue when it is decreased below about 5g/day, whereas for hypertensives, there indeed is a risk increase which becomes statistically significant between 6 and 7 g/day intake. The two studies cited suggest that the official recommendations are ill conceived with respect to target intake, not evidence based, and dangerous. In connection with the AHA recommendation, at 1.5 g/day, the risk is increased by about 1.5 times the risk at 4-5 g/day. Over the intake range of 3 to 7 g/day, it is clear that BP increases, but the big issue is the increase below 4 g/day in both hypertensives and non-hypertensives.

The US average sodium intake is estimated at about 3.4 g/day from the use of table salt, salt added while cooking and the consumption of prepared foods and thus the new conventional wisdom regards this as significantly excessive and a real health risk, whereas the studies cited put the same intake as already increasing risk because it is too low. For perspective, a teaspoon of salt (sodium chloride which is about 40% sodium) is equivalent to about 2 g of sodium. It is also important to realize that a significant percentage of salt intake is from the products of the food industry. It has also been repeatedly suggested that instead of sodium reduction, increasing potassium intake from fruits, vegetables and beans is wise. Finally, it appears clear that above 6 g/day for hypertensives is not a good idea but going below 4 is a bad idea for everyone.

Dr. David Brownstein's book *Salt Your Way to Health* is recommended for a good introduction not only to the merits of unrefined salt but also the many problems other than cardiovascular acute events that are related to salt deficiency, a condition that today the so-called experts would ridicule.

REFERENCES

1. Angus DC, van der Poll T. Severe sepsis and septic shock. *N Engl J Med* 2013;369:2063.
2. Gotts JE, Matthay MA. Sepsis: pathophysiology and clinical management. *BMJ* 2016;353:i1585.
3. Lobo LA, Benjamim CF, Oliveira AC. The interplay between microbiota and inflammation: lessons from peritonitis and sepsis. *Clin Transl Immunology* 2016;5:e90.
4. Iwashyna TJ. Survivorship will be the defining challenge of critical care in the 21st century. *Ann Intern Med* 2010;153:204-205.
5. Williams TA, Dobb GJ, Finn JC et al. Determinants of long-term survival after intensive care. *Crit Care Med* 2008;36:1523-1530.
6. Thomopoulos C, Parati G, Zanchetti A. Effects of blood pressure lowering on outcome incidence in hypertension: 3. Effects in patients at different levels of cardiovascular risk--overview and meta-analyses of randomized trials. *J Hypertens* 2014;32:2305-2314.
7. A Randomized Trial of Intensive versus Standard Blood-Pressure Control. *New England Journal of Medicine* 2015;373:2103-2116.

8. Vidal-Petiot E, Ford I, Greenlaw N et al. Cardiovascular event rates and mortality according to achieved systolic and diastolic blood pressure in patients with stable coronary artery disease: an international cohort study. *Lancet* 2016.
9. Mente A, O'Donnell M, Rangarajan S et al. Associations of urinary sodium excretion with cardiovascular events in individuals with and without hypertension: a pooled analysis of data from four studies. *Lancet* 2016;388:465-475.
10. O'Donnell M, Mente A, Rangarajan S et al. Urinary sodium and potassium excretion, mortality, and cardiovascular events. *N Engl J Med* 2014;371:612-623.

International Health News has an arrangement with iHerb to facilitate subscribers ordering supplements from a reliable source as well as assisting the newsletter in meeting its expenses. Dr. Ware, the editor, is not involved with this aspect of *IHN*, receives no financial benefit from these sales, and is only concerned with the scientific content of the newsletter.

Please use the link below to access the Vitamin Store.

Please Visit Our Vitamin Store



<http://www.yourhealthbase.com/vitamins.htm>

FREE subscription

<http://www.yourhealthbase.com/subscribe.htm>

Editor: William R. Ware, PhD

INTERNATIONAL HEALTH NEWS is published 10 times a year by
Hans R. Larsen MSc ChE, 1320 Point Street, Victoria, BC, Canada, V8S 1A5
E-mail: editor@yourhealthbase.com World Wide Web: <http://www.yourhealthbase.com>

ISSN 1203-1933 Copyright 2016 by Hans R. Larsen

INTERNATIONAL HEALTH NEWS does not provide medical advice. Do not attempt self-diagnosis or self-medication based on our reports. Please consult your healthcare provider if you are interested in following up on the information presented.