Carpal tunnel syndrome may be linked to diet

A new collaborative study by researchers on campus and a hand surgery center in Portland suggests possible link between vitamin B-6 deficiency and certain symptoms of carpal tunnel syndrome.

Though the researchers stop short of saying that a lack of vitamin B-6 is a contributing cause of carpal tunnel, they strongly endorse further studies of nutritional links to the syndrome.

They will present their research findings in April at the Biology '94 meeting in Anaheim, CA.

Carpal tunnel syndrome, a condition characterized by numbness, pain or tingling in the hands and awakening at night, historically has been associated with repetitive motions. Many office workers, industrial employees, computer operators and store clerks suffer from carpal tunnel syndrome or its symptoms.

The study at OSU looked at 294 persons who were at high risk for carpal tunnel syndrome. The researchers found that a significant number of the test subjects who had symptoms characteristic of the syndrome, including pain and tightness in the hands, also had low levels of vitamin B-6 in their blood.

"We think there may be a nutritional link," said Jim Leklem, a professor of nutrition and food management and principal investigator in the study. "Vitamin B-6 is directly associated with the neural system, including messages to the brain about pain cessation. That function may play a role with carpal tunnel syndrome."

Leklem, who has studied B-6 for some 20 years, said the vitamin also has a potential use in reducing edema, or swelling. One hypothesis is that swelling along nerve passages in the arm, exacerbated by lack of vitamin B-6, may either cause the pain and tightness associated with carpal tunnel syndrome, or impede "pain cessation messages" heading toward the brain.

"We're still trying to sort out the variables," he said

Vitamin B-6 can be found in significant quantities in soybeans, most nuts, red meats, chicken and turkey, salmon, tuna, banana, avocados, most legumes and wheat germ. The body uses vitamin B-6 to break down amino acids which come from protein, to break down glycogen, a storage form of glucose (or sugar), stored in the muscles, and to help the formation of red blood cells.

Other functions of the vitamin include formation of neuro-transmitters which carry signals to the brain, and maintaining the immune system.

A lack of vitamin B-6 can lead to anemia; changes in brain patterns, which lead to irritability, depression and neurological disorders; and a change in metabolism among the elderly.

An excess of vitamin B-6 can also cause problems.

"It fries your nerves," he said. "Excess B-6 is associated with peripheral neuropathy, which causes a loss of sensation in the nerves of the hands and feet."

Leklem said it would be difficult to take too much vitamin B-6 from natural sources, such as chicken or avocados.

"Women who have taken certain remedies for PMS (pre-menstrual syndrome) on occasion take more vitamin B-6 than is advisable," he said.

The OSU research was done in conjunction with the Portland Hand Surgery and Rehabilitation Center. It is directed by Dr. Peter Nathan. Nathan's research suggests that high body weight or mass, age, genetics and a lack of exercise are factors which may be associated with the syndrome.

"Any relationship between repetitive motions and CTS (carpal tunnel syndrome) is tenuous at best," said Dr. Richard Keniston, senior research associate working with Dr. Nathan. "The most repetitive job we have studied, keyboard data entry, is actually at significantly reduced risk for CTS relative to the general population of over 2,600 subjects we have studied."

Leklem said carpal tunnel syndrome is a complex condition, difficult to define and characterize.

One common symptom of carpal tunnel sufferers is waking in the night with extreme pain in the hands. Another symptom involves the Phalen's test, a clenching of the hands for 30 to 60 seconds in a claw-like formation. An ensuing loss of sensation, or a tingling in the hands, may indicate a disorder.

His previous studies were funded primarily by OSU's Agricultural Experiment Station.

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The above individuals are devoted to extending research-based information from Oregon State University to the people of Warm Springs in Agriculture, Home Economics, 4-H Youth, Forestry, Community Development, Energy and Extension Sea Grant programs. Oregon State University, United States Department of Agriculture, Jefferson County and the Confederated Tribes of Warm Springs cooperating. The Extension Service offers its programs and materials equally to all people.

EDUCATION THAT WORKS FOR YOU

Education reform topic of conference

by Norma Simpson

Home Economists from all over Oregon gathered at Kah-Nee-Ta April 7-10, 1994 to learn more Educational Reform in the state and to highlight family issues in Warm Springs.

Speakers included Mike Clements who participated in a Friday afternoon marathon talking about "Education and Warm Springs Today: Working Towards a Healthier Future"

Laurain Hintsala spoke about the Family Preservation Program in the panel on "Different Cultures/Same Family: Community Support Systems". An Charlotte Herkshan spoke about Family issues related to Native Americans.

Participants at the conference had a tour of the Apparel Industries, The Early Childhood Education Center and the Health and Wellness Center with the chauffeuring of Austin Greene from the Community Center. They all received the recently revised tour of Warm Springs using the annotated handout to accompany the revised map of Warm Springs facilities.

Pinky Beymer and Lucinda Green put the participants through the stimulating Exercise Breaks that kept everyone high on their toes in laughter.

I want to thank everyone for such terrific cooperation to educate this group about the great progress at Warm Springs.

Money management offered again

by Norma Simpson

Due to popular demand, Bob Pawelek and I will be repeating the series of three workshops concerning money management, which were conducted in February. Our goal is to help people to control their money rather than letting the money crunch rule their lives. It is a beginning class, open to men and women. You may have seen one of the worksheets in an earlier issue of Spilyay.

Participants should plan to attend all three meetings on Monday 5:30-7:00 p.m. at the training room in the Education Center, May 2, May 9 and May 16. Please call Salli Blackateer, the OSU secretary tp register for the class.

Then in September, we plan to have an advanced class for people who want more assistance and information. If you attended the February class you should plan to attend the second class, to move ahead in your financial skills. We would like to know the best day of the week for the follow-up classes in September.

"Sweet One" unique substitute

Q & A from University of California Berkeley Wellness letter, April 1994.

Q. I use a sugar substitute called Sweet One. Unlike the other substitutes, it has no warning label. And it can be used in cooking. Is this too good to be true? E.C., Raleigh, NC

A. No, it is indeed true. This product contains acesulfame-K (brand name, Sunette), which won FDA approval in 1989. More than 90 studies have given it a clean bill of health. Noncaloric, acesulfame-K is 200 times sweeter than sugar, so only small amounts of it are required. It is not metabolized, that is, it passes through the body unchanged, and it thus noncaloric (though Sweet One also contains dextrose and thus a packet has 4 calories). It contains a small amount of potassium, thus the "K" (the chemical symbol for the element) in the name.

Acesulfame-K doesn't break down when heated and can be used in baked goods and other cooked foods (aspartame can't be used in most baked goods). The manufacturer points out, however, that many recipes need some sugar for proper volume, texture and browning, so it recommends replacing only half the sugar, or less, with acesulfame-K. Even if you could avoid all the sugar, most baked goods would still be high in calories from fat.

We would be more enthusiastic about artificial sweeteners new and old if they really were useful as a weight-loss tool. But so far there has been little evidence that these sweeteners help people lose significant amounts of weight. Artificially sweetened foods may actually give a dieter a false sense of security ("the diet soda I'm drinking make it okay to eat this cheeseburger").

Juniper history to be discussed

Dr. John Buckhouse, renowned range specialist at Oregon State University, will be at Warm Springs on Wednesday April 20 to speak to the public about the history of juniper grasslands on the Reservation and Central Oregon.

The Range & Ag Committee invites everyone to mark their calendars for Dr. Buckhouse's talk.

Many people feel juniper has always been a part of the landscape. This is only partially correct. Historically, juniper kept to the rimrock where soils were very shallow or virtually nonexistent. Between 1880 and 1920, astronomical numbers of sheep and cattle were grazed over the countryside, stripping much of the perennial range grasses. This overgrazing, coupled with putting stops to range fires led to further encroachment by juniper.

Time and place will be announced.

Low cholesterol just as dangerous as high

by Norma Simpson

Since I have been recovering from so many bouts of illness, I am very aware the role of the patient to pay attention to details. But sometimes we have only half of the information that we need to be careful of our health. I was very proud of my efforts to reduce fat in my diet had been rewarded with a cholesterol count of 135. Until I read the following article from the John Hopkins Medical Letter called Health After 50. Since the OSU Extension Office subscribes to many newsletters, I frequently rewrite articles for Spilyay to provide bits of news appropriate to Warm Springs. As with today, I think is better to use the entire article.

CAN YOUR CHOLESTEROL BE TOO LOW?

Is having low cholesterol just as dangerous as having high cholesterol? That's the latest question raised by two recent and provocative studies. All told, both found that men and women are about as likely to die, although from other than heart disease, if they have very low cholesterol levels, below 160 units (milligrams per deciliter, of blood) as they are to die from heart disease, if their level is over 220.

Unfortunately, news reports of the studies gave short shrift to what is resoundingly known and unchanged. "There is a definitive and strong relationship between high cholesterol and heart disease, and it is still desirable to get your cholesterol in the 200 range," says Dr. James Weiss, a Johns Hopkins cardiologist. Furthermore, the cholesterol levels that have been associated with increased death rates, under 160 are very low. "Levels this low occurring naturally in middle-aged and older people are quite unusual and are probably genetically determined," says Dr. Weiss. "Rarer still is achieving such levels through cholesterol-lowering medication or diets."

There have been murmuring that cholesterol could go too low ever since a 1971 Japanese study found an association between low blood cholesterol and high rates of cerebral hemorrhage. Subsequent studies found similar associations, the most publicized being a relationship between low cholesterol and violent death. In response to this growing body of data, the National Heart, Lung and Blood Institute (NHLBI) convened a conference on low cholesterol in October 1990.

The conference examined the findings of 19 international trials involving close to 300,000 men and women. Last summer, the results of this meta-analysis were published in the journal Circulation. The result: Very low cholesterol levels were associated with four times the risk of dying of a number of conditions other than heart disease: suicide and alcoholism, as well as chronic obstructive lung disease, cerebral hemorrhage and some cancers (especially those of the lung, liver or pancreas). The results were adjusted to eliminate possible confounding factors, such as smoking, alcohol abuse, and general ill health, which had been used to explain the association in earlier studies.

Similar findings were published, almost simultaneously, in the Archives of Internal Medicine. For 12 years, researchers followed over 350,000 healthy men, participating in the long-running MRFIT (Multiple Risk Factor Intervention Trial) study. The 6% of these men who had very low cholesterol levels were unlikely to die of heart disease. However, they were twice as likely to die of cerebral hemorrhage, three times as likely to die of liver cancer, five times as likely to die from alcoholism and twice as likely to commit suicide.

Chicken or egg?

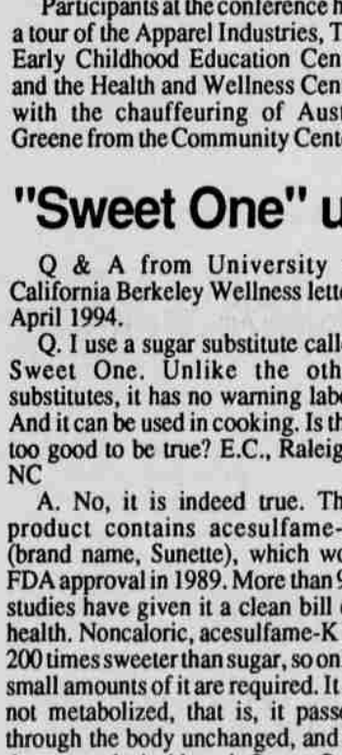
Researchers from both studies offer several theories regarding their findings. Most NHLBI conference members believe that low cholesterol itself is not the cause of life-threatening illness. Rather, it is the effect of as-yet-undetermined factors related to the underlying illness. For example, both cancer and respiratory illness are associated with "wasting" (progressive emaciation and weakness), which could lead to inadequate nutrient and cholesterol intake. Another possibility is that there is a minimal cholesterol level needed to carry out, on a cellular level, necessary interactions that guard against disease. Clearly, future research must delve into the relationship between non-cardiovascular diseases and cholesterol, as well as into the biological functions of cholesterol.

Nonetheless, some experts have used the association between low cholesterol and death to call for a moratorium on universal screening for cholesterol, and on the treatment of elevated cholesterol levels in those with no symptoms of heart disease. However, as Dr. John C. LaRosa, of George Washington University Medical Center and chair of an American Heart Association task force on cholesterol, says, "What is cause? What is effect? It is important that we have additional studies to get to the bottom of this problem. We must continue to encourage all people to know their cholesterol number and to maintain their levels at no more than 200. We must not forget that as many as one-third of patients with coronary atherosclerosis will, without warning symptoms, die at their first manifestation of clinical disease. A precipitous movement to change public policy is premature. Thus far we have no solid evidence of what these things mean."

The bottom line

A growing body of research does point to a floor of 160 units, below which your cholesterol shouldn't go. But that's not to say you should only eat cholesterol-laden steak and fries. The leading cause of death in this country is still heart disease. And a leading cause of heart disease is high cholesterol. The desirable level of blood cholesterol remains between 160 and 200 units. "For the vast majority of people over 50, that's going to mean at the very least that they need a healthful, low-fat diet," says Hopkins' Dr. Weiss. The advice stands: If your cholesterol is over 200, consult your doctor about the best way to get it down.

Stockman's Roundup: Wild horses and livestock



Bob Pawelek
OSU Extension Agent
Livestock and Range

The following is an excerpt from Impacts of Livestock Production by Dr. Peter Cheeke, Oregon State University Animal Science professor.

Nostrils flared, mane and tail streaming in the wind, the wild stallion gallops effortlessly mile after mile across the duty land. This magnificent animal and others of his kind, are being driven to extinction by the relentless greed of western cattlemen, who covet every last bit of forage on public lands of the American West. This may be the popular perception of the wild horse (mustang) on the western rangelands of North America. how valid is this perception?

Evolution of the horse and other equids have been extensively studied, drawing upon abundant fossil record. The ancestors of the modern horse evolved in the Pleistocene Epoch in North America, approximately 50 million years ago. These ancestral animals migrated from North America to South America and Europe by land bridges existing then. For reasons not fully known, the horse, along with numerous herbivores, became extinct in North America following the Ice Age.

The so-called wild horses found today in North America are actually feral horses, domestic animals gone wild. They decended from three main origins: Spanish horses which escaped early in the Spanish conquest, escaped US cavalry mounts and cow horses from ranches in the settlement of the American West. Thus the "wild horse" is not a wild horse: it is a domestic animal which has reverted to life in the wild. (This in no way diminishes its status as an animal deserving to be preserved. Wild donkeys, burros are also feral animals.)

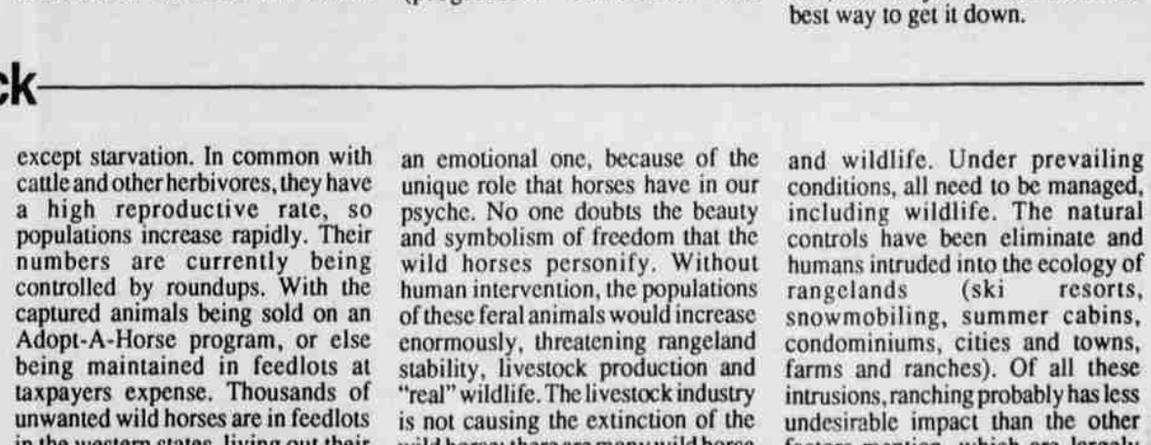
The grasslands and prairies of most North America coevolved with the bison, a bovid closely related to cattle. Cattle can fairly be regarded as domesticated replacements of bison. In contrast, because the horse did not coevolve with the grasslands which developed in the American West since the Ice Age, the grasses are poorly equipped to withstand heavy grazing pressure by mustangs. The description by a pioneer Oregon rancher, Herman Oliver, of the Impact of wild horses on the range is pertinent (Oliver, 1961):

"The bands of wild horses were usually from about seven up to 25, each with its stallion leader, and the other mares. As is the case with the deer now, there was all kinds of summer range, but in winter the snows would force them down into the open grasslands on the ranches. There were far too many for the grass available. Occasionally a war somewhere in the world would cause a sudden demand for cavalry and artillery horses. The Boer War really was a bonanza for the cowboys, because without much finances or backing, a few men could go out and round up hundreds of these wild horses. Between wars the horses bred and multiplied enormously, except that an occasional hard winter would kill them off by the thousands, as is now the case with deer herds that get too plentiful. For a long time we didn't pay so much attention to them, but finally came to see that wherever there were wild horses, there wasn't much range anymore. The bunch grass let and was replaced by sage brush or weeds. They were especially hard on the grass in winter and spring, when congregated by the hundreds on grassy hillsides, pawed away the snow, and dug out the grass. Sometimes roots and all. If it happened to be a dry year, the grass on such a range never came back, so then the horses next year would ruin another hill. After this had gone on from 1870 to around 1910, forty years, there wasn't much grass left in entire counties."

The wild horses did not coevolve with the grasslands, nor did they coevolve with predators (limited predation by mountain lions occur in a few areas). The only major controls on their populations have been starvation from overpopulation, hard winters and human predation. First by American Indians, followed by the cowboys and ranchers. As described above, wild horses were caught and used by the Us Cavalry and also sold to other nations at war. After the first World War, the horse was replaced by motorized vehicles. From then until the 1960's large numbers of wild horses were rounded up and slaughtered for horse meat for export and for dog food. These practices ended in the 1960's following the protests of private citizens concerned with the welfare of wild horses.

There are no significant natural controls on wild horses numbers except starvation. In common with cattle and other herbivores, they have a high reproductive rate, so populations increase rapidly. Their numbers are currently being controlled by roundups. With the captured animals being sold on an Adopt-A-Horse program, or else being maintained in feedlots at taxpayers expense. Thousands of unwanted wild horses are in feedlots in the western states, living out their lives on alfalfa hay and grain.

The wild horse issue in the US is an emotional one, because of the unique role that horses have in our psyche. No one doubts the beauty and symbolism of freedom that the wild horses personify. Without human intervention, the populations of these feral animals would increase enormously, threatening rangeland stability, livestock production and "real" wildlife. The livestock industry is not causing the extinction of the wild horse; there are many wild horse herds on western rangelands. There is room on the range for horses, cattle and wildlife. Under prevailing conditions, all need to be managed, including wildlife. The natural controls have been eliminate and humans intruded into the ecology of rangelands (ski resorts, snowmobiling, summer cabins, condominiums, cities and towns, farms and ranches). Of all these intrusions, ranching probably has less undesirable impact than the other factors mention, which are largely the responsibility of non-rural and non-agricultural people.



Approximately seven individuals attended a recent calving school at a ranch in Madras. Delvis Heath takes his turn at "pulling a calf".