PRACTICAL POINTERS

FOR

PRIMARY CARE

ABSTRACTED MONTHLY FROM THE JOURNALS

OCTOBER 1999

JAMA, NEJM, LANCET
BRITISH MEDICAL JOURNAL
ARCHIVES OF INTERNAL MEDICINE
ANNALS OF INTERNAL MEDICINE

PUBLISHED BY PRACTICAL POINTERS INC.
EDITED BY RICHARD T. JAMES JR., M.D.
FIRST CHARLOTFE PHYSICIANS
300 BILLINGSLEY ROAD
CHARLOTTE NC 28211 USA

==========

HIGHLIGHTS OCTOBER 1999

10-1 CARDIAC AND ARTERIAL TARGET ORGAN DAMAGE IN ADULTS WITH ELEVATED AMBULATORY AND NORMAL OFFICE BLOOD PRESSURE

White coat normotension is the converse of white coat hypertension – in the former, clinic (office) BP is higher than ambulatory BP; in the latter, clinic BP is higher than the ambulatory BP.

White coat normotension was associated with increased left ventricular mass and carotid wall thickness. The association of white coat normotension with prognostically important target organ damage may partly explain the ability of high normal clinic BP to predict subsequent hypertension and cardiovascular events. Annals Int Med October 19, 1999; 131: 564-72

10-2 TUBE FEEDING IN PATIENTS WITH ADVANCED DEMENTIA

"We found no direct data to support tube feeding of demented patients with eating difficulties for any of the commonly cited conditions." Tube feeding is a risk factor for aspiration pneumonia. "To our knowledge, it has never been shown to be effective treatment. Neither regurgitated gastric contents, nor contaminated oral secretions can be kept out of the airways with a feeding tube. Survival has not been shown to be prolonged. Periprocedure mortality is substantial. Tubes cause serious local and systemic infections. Functional status is not improved. Demented patients are not made more comfortable. JAMA October 13, 1999; 282: 1356-70

10-3 LACK OF EVIDENCE ABOUT TUBE FEEDING – Food For Thought

It is easy to lose sight of the fact that not eating may be one of the many facets of the dying process, and not the cause. Abnormal swallowing is often a marker for severe, multisystem illness. It carries a high mortality regardless of intervention by artificial feeding.

Despite the limitations of observational and retrospective evidence, the preceding article presents convincing arguments that clinicians should consider before initiating tube feedings, and if tube feedings have been initiated, highlights the importance of periodically reviewing the goals of treatment. If tube feeding is instituted, such an intervention should be made with very specific goals in mind, and the benefits and burdens of therapy must be reassessed regularly. JAMA October 13, 1999; 273: 1380-81

10-4 THE LEGACY OF SUPPORT

"Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments" JAMA 1995;274;1541-48. (SUPPORT) explored a fundamental human concern by understanding and attempting to correct problems identified among severely ill, hospitalized patients.

Phase II of the study was an attempt to improve conditions. It offered the medical team 3 kinds of help: 1) models attempting to predict with precision the likelihood of death, 2) specially trained nurses who talked with patients and families to try to understand their wishes, and 3) supplying physicians with detailed instructions about patient and family wishes regarding pain control, use of "heroic" measures, and cardiopulmonary resuscitation. Experts were convinced that targeted interventions would work. They were wrong. The experimental group did no better than controls. SUPPORT failed to identify

how to improve care at the end of life. “But out of that failure came a greater understanding of the complexity of care of terminal illness.” Annals Int Med November 16, 1999; 131: 780-82

10-5 BODY MASS INDEX AND MORTALITY IN A PROSPECTIVE COHORT OF U.S. ADULTS

The risk of death was substantially modified by smoking and the presence of disease. In healthy people who had never smoked, the nadir of the curve for BMI and mortality was at 23.5 to 24.9 for men and 22 to 23.4 for women. Relative risk of death was not significantly elevated for the range of BMI up to 26.4 for men and 24.9 for women. NEJM October 7, 1999; 341: 1097-1105

10-6 THE PREVENTION OF OBESITY

It has been proposed that adults who have gained 10 pounds in weight or 2 inches in waist circumference should be counseled to make small but permanent adjustments in physical activity and eating patterns. The role of primary care physicians in prevention of obesity needs to be taken seriously. NEJM October 7, 1999; 341: 1140-41

10-7 DIETARY FIBER, WEIGHT GAIN, AND CARDIOVASCULAR DISEASE RISK FACTORS IN YOUNG ADULTS.

Dietary fiber was inversely associated with insulin levels, weight gain, and other risk factors for CVD in young adults. JAMA October 27, 1999; 282: 1539-46

10-8 FRUIT AND VEGETABLE INTAKE IN RELATION TO RISK OF ISCHEMIC STROKE

These data support a protective relationship between consumption of fruit and vegetables and ischemic stroke, particularly cruciferous and green leafy vegetables and citrus fruits But, intake beyond 6 servings per day provided little further protection. JAMA October 6, 1999; 282: 1233-39

10-9 A QUALITATIVE ANALYSIS OF HOW PHYSICIANS WITH EXPERTISE IN DOMESTIC VIOLENCE APPROACH THE IDENTIFICATION OF VICTIMS

This sample of physicians’ experience may help others navigate around barriers to try to help victims. Screening questions should be carefully framed. Reassure patients that asking about intimate relationships is part of the physician’s job. Help the patient to understand that domestic violence is prevalent. This approach aims to normalize the process of identification and disclosure. It minimizes fear of offending patients, patient shame and denial, and fears of being identified. It places domestic violence squarely in the domain of public health. Annals Int. Med. October 19, 1999; 131: 578-84

10-10 INTEGRATING ROUTINE INQUIRY ABOUT DOMESTIC VIOLENCE INTO DAILY PRACTICE.

The Joint Commission for Accreditation of Health Care Organizations now requires hospitals and clinics to institute protocols and training to help providers identify victims of abuse, assess their needs, provide interventions, and make referrals to community-based advocacy services. “Because domestic violence is so prevalent and its presentations are so varied, inquiring only when abuse is suspected is no longer considered adequate. It is essential that questions about abuse be fully integrated into the medical history rather than viewed as optional components to be added when there is time.” Annals Int. Med. October 19,1999; 131: 619-20

10-11 DIAGNOSING SUFFERING: A PERSPECTIVE

The language that describes and defines suffering is different from the language of medicine.[1] There is too often a disconnect between our case history and the patient's narrative. "Herein lies one of the reasons for the inadequate relief of suffering." Physicians are trained primarily to find out what is wrong with the body in terms of diseases or pathophysiology. They do not examine what is wrong with persons. "When physicians attend to the body rather than to the person, they fail to diagnose suffering."

The care of the suffering patient (attending to the person) means more than caring about the patient or being compassionate. Lack of recognition of suffering does not come about only because of the absence of compassion, it is also the result of physicians' poor diagnostic and therapeutic knowledge and skills about persons –- that is, an inability to focus on the person rather than the disease. Annals Int. Med. October 5, 1999; 131; 531-34

10-12 LYING FOR PATIENTS: Physician Deception of Third Party Payers

Many physicians sanction the use of deception to secure a third-party payers' approval of medically indicated care. A new ethic of cost control in the use of limited resources conflicts with the old ethic of patient advocacy. Although using deception to solve impasses may succeed in the interim, the long-term costs in loss of integrity are high. Archives Int Med October 25, 1999; 2263-70

10-13 WALKING COMPARED WITH VIGOROUS PHYSICAL ACTIVITY AND RISKS OF TYPE 2 DIABETES IN WOMEN.

These data suggest that greater physical activity is associated with substantial reduction of risk for type 2 diabetes. JAMA October 20, 1999: 282: 1433-39

10-14 A 10-YEAR PROSPECTIVE STUDY OF PRIMARY HYPERPARATHYROIDISM WITH OR WITHOUT PARATHYROID SURGERY

In patients with primary hyperparathyroidism, parathyroidectomy resulted in the normalization of biochemical values and increased BMD. Most asymptomatic patients who did not undergo surgery, did not have progression of the disease over 10 years, although about 1/4 of them did. NEJM October 21, 1999; 341: 1249-55

.

10-15 TREATMENT OF PRIMARY HYPERPARATHYROIDISM

Most patients with primary hyperparathyroidism probably have symptoms of the disease. The symptoms may be subjective, or may be due to nephrolithiasis or osteopenia. Surgery improves both types of symptoms, as well as preventing recurrent stones and reversing osteopenia. Surgical treatment is now much simpler and faster than in the past. "It should now be recommended for nearly all patients." NEJM October 21, 1999; 341: 13011-02

10-16 BRIEF PHYSICIAN- AND NURSE PRACTITIONER- DELIVERED COUNSELING FOR HIGH-RISK DRINKERS: *Does it work?*

Screening and very brief (5 to 10 minute) advice and counseling delivered by a physician or nurse practitioner as part of routine primary care significantly reduced alcohol consumption by high-risk drinkers. Archives Int. Med. October 11, 1999; 159: 2198-2295

10-17 IS INTEGRATIVE MEDICINE THE WAVE OF THE FUTURE?

A Debate between Arnold S. Relman, MD and Andrew Weil, MD

Dr Weil: "I feel strongly that integrative medicine is the future, not only because people want it, but because very powerful forces operating both within science and outside of science are moving in that direction."

Dr. Relman: Alternative medicine depends . . ."for its verification largely on personal belief and subjective experience". ".. . it makes no distinction between objective phenomena and subjective experience or between the external world and human consciousness". "Since alternative practitioners are convinced that individual experience is the ultimate verification of truth, most of them do not see the need to obtain objective statistically significant data in order to test whether their methods really work."

"Without objectively verifiable evidence, there is no reason to believe the claims of alternative medicine, particularly when there is no plausible biological mechanism by which many of its methods might work."

RECOMMENDED READING

10-11 DIAGNOSING SUFFERING: A PERSPECTIVE

10-12 LYING FOR PATIENTS: Physician Deception of Third Party Payers

10-17 IS INTEGRATIVE MEDICINE THE WAVE OF THE FUTURE?

REFERENCE ARTICLE

10-9 A QUALITATIVE ANALYSIS OF HOW PHYSICIANS WITH EXPERTISE IN DOMESTIC VIOLENCE APPROACH THE IDENTIFICATION OF VICTIMS

==========

White coat hypertension turned upside down

10-1 CARDIAC AND ARTERIAL TARGET ORGAN DAMAGE IN ADULTS WITH ELEVATED AMBULATORY AND NORMAL OFFICE BLOOD PRESSURE

Hypertension, detected by clinic BP measurement (office BP), is a major contributor to cardiovascular mortality and morbidity. However, because of the wide variations in BP that occur during normal activity, clinic BP readings may not consistently reflect the overall BP load imposed on the heart and arterial tree.

It is generally accepted that a mean 24-hour ambulatory BP **(ABP)** is more closely associated with target organ damage and future cardiovascular events than isolated BP readings taken in the clinic; 134/90 defines the cut point. Mean ABPs below 134/90 are considered within the normal range because little or on target organ damage is associated with these levels. ABPs above 134 and/or 90 are considered abnormal (ambulatory hypertension) because target organ damage frequently occurs at these levels.

In an individual, clinic BP may be high and the ABP within normal limits -- "white coat hypertension". In some individuals the opposite may occur – mean ABP is in the hypertensive range and the clinic BP is normal -- "white coat normotension".

This study sought to determine the prevalence of "white coat normotension" and its association with target organ damage.

Conclusion: "White coat normotension" was common and associated with increased left ventricular mass.

STUDY

1 Cross-sectional observational study entered: 1) almost 300 normotensive adults [clinic BP under 140/90], and 2) 64 patients with sustained hypertension [both clinic and ABPs elevated].

2. Ambulatory BP was recorded every 15 to 30 minutes by a 24-h non-invasive ambulatory BP recorder.

3. For this study, white coat normotension was defined as clinic BP < 140/90 and awake ABP > 134 systolic

and/or 90 diastolic.

4. Measured target organ damage by echocardiography and carotid artery ultrasound.

RESULTS

1. Sixty one subjects had "white coat normotension"; 234 had both clinic and ABP normotension; 64 had sustained hypertension.

2. BP measurements (means):

	Sustained normotension	White coat normotension	Difference	Sustained hypertension
	n = 234	n = 61		n = 64
Mean clinic BP	109/75	122/80	13/5	157/96
Mean awake BP	120/78	139/89	19/11	153/96
Mean sleep BP	105/76	116/69	11/7	137/81
Mean work BP	121/79	138/89	17/10	151/97

3. Patients with "white coat normotension" were older, had higher BMI, higher serum creatinine and glucose levels. More were smokers.

4. In those with "white coat normotension" (compared with those with sustained Normotension) left ventricular mass index was higher by 13 g/height in m^2; and relative arterial wall thickness higher by 0.03.

5. No significant difference in ventricular mass index or relative wall thickness comparing those with "white coat normotension" and sustained hypertension.[1]

DISCUSSION

1. In this population, nearly 20% of patients with clinic normotension had awake ambulatory systolic or diastolic BP that exceeded previously published partition values.
2 This extends previous evidence that the average ambulatory measurement of 24-hour BP has an important role in predicting organ damage and clinical outcomes. Left ventricular hypertrophy predicts high rates of cardiovascular events.
3 Left ventricular mass index was similar in patients with white coat normotension and those with sustained hypertension
4 Greater obesity, higher cholesterol levels, and a trend toward more use of nicotine were seen in the white coat normotension group. It has been reported that smokers have a higher ambulatory BP than non-smokers.
5 These findings may help to explain previous observations of clinical benefit of reducing BP to considerably below the conventional values of 140/90.
6 Patients with high normal clinic BP may have a high prevalence of ambulatory hypertension. Target organ damage could be reversed by further reduction of BP in this group.
7 "However, the true prognostic significance of white coat normotension must be defined in prospective observational studies."

CONCLUSION

White coat normotension was associated with increased left ventricular mass and carotid wall thickness. The association of white coat normotension with prognostically important target organ damage may partly explain the ability of high normal clinic BP to predict subsequent hypertension and cardiovascular events.

Annals Int Med October 19, 1999; 131: 564-72 Original investigation, first author Jennifer E Liu, New York Presbyterian Hospital-Weill Medical College of Cornell University, New York.

1. This does not seem reasonable, considering the difference between mean BPs in those with white coat normotension and those with sustained hypertension. Follow-up and conformation are needed.

Comment:

The concept of "white coat normotension" makes sense. The adverse effects of BP depend on the average daily BP rather than on clinic measurements of BP.

There is no definite cut-point separating "normal" BP from "hypertension". Patients with high "normal" clinic BP are more likely to have a higher mean ABP during the day than those with a low "normal" clinic BP.

Problem: How to diagnose in a cost-effective way the patients who have white coat normotension. The only reasonable way now is to depend on the likelihood that those with high normal clinic BP, defined by the usual criteria, are most likely to have higher mean BP during 24-hours, and to be at increased risk especially when combined with smoking, diabetes, increasing age, obesity, and lipid disorders. This presents opportunities for effective early intervention.

Hypertension is not a yes/no condition. Risks rise as BP rises even within the range of normotension. RTJ

10-2 TUBE FEEDING IN PATIENTS WITH ADVANCED DEMENTIA

Patients with advanced dementia may resist food or be indifferent to it, fail to manage the food bolus properly, and aspirate. Enteral tube feeding is intended to prevent aspiration pneumonia, forestall malnutrition and death by starvation, and provide comfort.

This study searched the MEDLINE to identify data about whether tube feeding in patients with advanced dementia can accomplish these goals.

Conclusion: This intervention should be discouraged.

STUDY

Clinical outcomes

Found no published randomized trials comparing tube feeding with oral feeding. There were no data to suggest that tube feeding improves any clinical important outcome. Risks are substantial.

Aspiration pneumonia

Tube feeding cannot be expected to prevent aspiration of oral secretions. No data show that it can reduce risk of regurgitated gastric contents. In fact, gastrostomy tube placement may reduce the lower esophageal sphincter pressure and increase risk of gastroesophageal reflux. No randomized trials have been done, but several case-control studies identified tube feeding as a risk factor for aspiration pneumonia. In one prospective study, orally fed patients with oropharyngeal dysphagia had significantly fewer major aspiration events than those fed by tube. "Artificial feeding does not seem to be a satisfactory solution for preventing pneumonia in elderly prandial aspirators. Jejunostomy is not associated with lower rates of pneumonia than gastrostomy. We found no published studies suggesting that tube feedings can reduce the risk of aspiration pneumonia."

Malnutrition

Does tube feeding prevent malnutrition? In several clinical studies, provision of increased nutrients to patients with abnormal markers of nutritional state had no effect on clinical outcomes. For patients receiving tube feedings in long-term care (the majority due to neurological impairment) "adequate calories and protein were provided . . .still, subjects showed weight loss and severe depletion of lean and fat body mass". Of 17 trials of patients with advanced cancer, most of whom were emaciated, no trial showed a survival benefit. The National Institutes of Health concluded that there are no published observations providing direct evidence that wasting is a cause of death or that reversal of wasting improves outcome.

Survival

Is survival improved by tube feeding? Several lines of evidence undermine the apparently commonsense practice of tube feeding emaciated, demented patients to prevent starvation. Survival of very low weight demented and non-demented patients was not different in a long-term care facility with a program of careful feeding by hand. Another study found similar mortality rates among 4 groups: 1) those that fed themselves, 2) those who required assistance but otherwise had no difficulty, 3) those who refused food, and 4) those that coughed and choked on food.

Non-randomized, retrospective observations of nursing home residents have found no survival advantage with tube feeding. Indeed, one study of patients with chewing and swallowing problems reported a significant increase in 1-year mortality among tube-fed patients (risk ratio = 1.4)

Mortality among tube fed patients is substantial. Tube placement itself can cause death.

Pressure sores

Are pressure ulcers prevented by tube feeding? Two studies of 800 patients over 6 months reported that tube feeding was not associated with healing or preventing new pressure sores. Bedfast, incontinent patients with dementia who are tube fed are more likely to be restrained, and will probably make more urine and stool. Pressure sore outcomes could be worsened. "We found no published studies suggesting that tube feeding can improve pressure sore outcomes."

Patient comfort

Does tube feeding improve patient comfort? For many demented patients, data about symptoms can be based only on inference. In a prospective trial of palliative care for terminally ill patients with anorexia (primarily cancer and stroke) few experienced hunger or thirst. Of those that did, relief was achieved with small amounts of food and liquids or by ice chips and lip lubrication. No study indicated that tube feeding makes dysphagic demented patients more comfortable. Approximately 2/3 of nasogastric tubes require replacement. This adds considerable discomfort.

CONCLUSION

"We found no direct data to support tube feeding of demented patients with eating difficulties for any of the commonly cited conditions." Tube feeding is a risk factor for aspiration pneumonia. "To our knowledge, it has never been shown to be effective treatment. Neither regurgitated gastric contents, nor contaminated oral secretions can be kept out of the airways with a feeding tube. Survival has not been shown to be prolonged. Periprocedure mortality is substantial. Prolonged survival in very underweight, dysphagic, demented persons without tube feedings is common. Tubes cause serious local and systemic infections. Functional status is not improved. Demented patients are not made more comfortable.

Several factors contribute to the widespread use of tubes in elderly demented patients. Some may consider artificial feeding to be life-sustaining. The apparent validity of tube feeding is very persuasive. If patients have trouble eating, it seems sensible to feed them by any means. Tubes may appeal to administrative convenience, ease use of nursing staff, and be misunderstood by health care providers and families.

The clinical challenge these patients present is formidable. "We believe that a comprehensive, motivated, conscientious program of hand feeding is the proper treatment." All who make the decision to use tubes should be clearly informed that the best evidence suggests that it will not help.

JAMA October 13, 1999; 282: 1356-70 "Special Communication" A Review of the Evidence, first author Thomas E Finucane, Johns Hopkins Geriatrics Center, Baltimore MD.

10-3 LACK OF EVIDENCE ABOUT TUBE FEEDING – Food For Thought

(This editorial comments and expands on the preceding.)

From a mother breastfeeding her infant to a grandmother serving a meal, the provision of nutrition is a common way to demonstrate love and affection. When a person loses the ability to eat during the dying process, the inability to provide food can be very unsettling to families.

It is easy to lose sight of the fact that not eating may be one of the many facets of the dying process, and not the cause. Abnormal swallowing is often a marker for severe, multisystem illness. It carries a high mortality regardless of intervention by artificial feeding.

But dementia is often not thought of as an "end stage" illness. This makes the decision about the use of artificial nutrition a difficult one for many physicians and families.

Despite the limitations of observational and retrospective evidence, the preceding article presents convincing arguments that clinicians should consider before initiating tube feedings, and if tube feedings have been initiated, highlights the importance of periodically reviewing the goals of treatment. Aspiration occurs in up to 50% of patients with feeding tubes regardless of whether nasogastric or gastric tubes are used. The use of chemical and physical restraints is an often forgotten complication of tube feeding in patients who become agitated and attempt to remove the tube.

Given the lack of evidence that tube feeding makes patients live longer or improves quality of life, and the known adverse effects, clinicians and families should think carefully about the goals of therapy before initiating tube feeding.

The goals should be in concert with patients' previously expressed values and wishes. Statements like "We can't just let him starve to death" or "If we don't put this tube in she will get pneumonia" need to be put in perspective and replaced with more meaningful, thoughtful, and individualized approaches to care based on the available evidence of efficacy.

If tube feeding is instituted, such an intervention should be made with very specific goals in mind, and the benefits and burdens of therapy must be reassessed regularly.

The medicalization of death has been termed a modern "coping mechanism" that helps caregivers deal with death, and there is a tendency to look to medicine for answers even when death is inevitable.

JAMA October 13, 1999; 273: 1380-81 Editorial by Robert McCann, University of Rochester, NY

==========

10-4 THE LEGACY OF SUPPORT

I abstracted this article to follow the report on tube-feeding to remind us of the complexity of end-of-life care. Although results of studies and reports of care are discouraging, I believe progress is being made. The key is <u>ongoing</u> communications between loved-ones and the physician before the need arises. Ed.

"Few clinical research projects have generated as much public interest or as many published articles as SUPPORT ("Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments") The first publication[1] generated

front-page coverage in major newspapers as well as multiple TV news stories. The study has been elaborated by almost 100 subsequent articles published in the medical literature.

What accounts for the impact?

SUPPORT explored a fundamental human concern by understanding and attempting to correct problems identified among severely ill, hospitalized patients.

Phase I of the study was observational and descriptive. It involved over 4300 patients for whom life expectancy was judged to be less than 6 months. It produced sobering findings. Physicians did not seem to know what kind of care their patients wanted; severe pain was unacceptably common; and too many patients died in intensive care units hooked up to machines.

Phase II of the study was an attempt to improve conditions. It offered the medical team 3 kinds of help: 1) models attempting to predict with precision the likelihood of death, 2) specially trained nurses who talked with patients and families to try to understand their wishes, and 3) supplying physicians with detailed instructions about patient and family wishes regarding pain control, use of "heroic" measures, and cardiopulmonary resuscitation. Experts were convinced that targeted interventions would work. They were wrong. The experimental group did no better than controls. The amount of time spent in intensive care, in a coma, or on a respirator did not differ between groups. Physicians were often unaware of patient preferences. But patients and families did not raise these issues either. Reports of severe pain were equally high. Costs of care were no different. A third of the families lost all or most of their savings.

The findings of SUPPORT were a blow to the conventional view of improving end-of-life care. The findings were so credible and so well documented that it was instantly accepted by both professional and lay audiences.

Subsequently, other important findings have emerged: the great difficulty in predicting subsequent functional status of seriously ill patients; the grave financial impact of serious illness of families; the difficulties patients have in communicating preferences about end-of-life decisions.

Studies are continuing with 3 major goals: improving professional education so that physicians, nurses, and clergy will communicate better with patients about end-of-life issues and provide better palliative care; changing the institutional environment to eliminate legal, organizational, and financial barriers to better care; and changing public expectations so that patients and families will be more comfortable discussing these issues with each other and with the care team. Growing segments of society are starting to pay attention.

SUPPORT failed to identify how to improve care at the end of life. "But out of that failure came a greater understanding of the complexity of care of terminal illness."

Annals Int Med November 16, 1999; 131: 780-82 Editorial by Steven A Schroeder, The Robert Wood Johnston Foundation, Princeton, NJ

1 JAMA 1995;274;1541-48

==========

10-5 BODY MASS INDEX AND MORTALITY IN A PROSPECTIVE COHORT OF U.S. ADULTS

This large prospective study included more than 1 million adults followed for 14 years during which over 200 000 deaths occurred.

It investigated relation between body mass index (BMI --- weight in kilograms divided by height in meters squared) and overall mortality. Also the effects of age, race, sex, smoking status, and history of disease on the relation.

The risk of death was substantially modified by smoking and the presence of disease. In healthy people who had never smoked, the nadir of the curve for BMI and mortality was at 23.5 to 24.9 for men and 22 to 23.4 for women. Relative risk of death was not significantly elevated for the range of BMI up to 26.4 for men and 24.9 for women.

Among subjects with the highest BMI the relative risk of death was 2 to 2.5 times higher than for those with a BMI of 23.5 to 25.

Blacks with the highest BMI had much lower risks of death. This did not differ significantly from 1.00[1]

Heavier men and women of all ages had increased risk of death.

A high BMI was most predictive of death from cardiovascular diseases.

The increase in death among the very thin resulted from cerebrovascular disease, pneumonia, and diseases of the central nervous system.

NEJM October 7, 1999; 341: 1097-1105 Original investigation, first author Eugenia E Calle, American Cancer Society, Atlanta, GA.

Comment:

1 Blacks can be devastated by a high prevalence of type 2 diabetes and hypertension, aggravated by obesity. This surely increases risk of death. Why this observation?

One observation surprised me. Very lean persons (eg, BMI 18 –19) , even if they had no co-morbidity and did not smoke had a higher risk of death than those with a BMI 23 to 25.

What are the clinical applications?

I believe primary care physicians who follow patients for years should chart BMI to detect any significant trend, especially toward the upside. As the BMI approaches 25 for women, and 26 for men, attention should be paid to attempting permanent adjustments in diet and exercise.

For obviously thin persons, consider smoking, diet history, and drug abuse in addition to co-morbidity (HIV?) . Even if there are no obvious factors leading to thinness, it should be a concern, and the BMI charted with encouragement to gain. RTJ

==========

10-6 THE PREVENTION OF OBESITY

(This editorial comments and expands on the preceding study.)

Smoking and disease substantially modify the BMI-mortality association

Age also modifies the relation. At age 30 to 64 a BMI of 40 was associated with a relative risk of death of 2.7. This contrasts with a RR of 1.4 at age 75. However, the *difference* in mortality rates between obese elderly and non-obese elderly was larger than in young persons.. “This finding may justify more aggressive treatment of obesity in the elderly than among younger persons.”

The study did not identify the exact BMI associated with the lowest mortality. The nadir was generally between a BMI of 22 and 25.

The Canadian Task Force on Preventive Health Care recommends that the highest priority for research related to obesity should be the development of primary prevention methods.

It has been proposed that adults who have gained 10 pounds in weight or 2 inches in waist circumference should be counseled to make small but permanent adjustments in physical activity and eating patterns. The role of primary care physicians in prevention of obesity needs to be taken seriously.

The problem of obesity will require efforts by a partnership between food marketers and manufacturers, public and private purchasers of health care, urban planners, large employers, and real-estate developers in shaping and supporting social and environmental policies that can help patients improve their diets and become physically active.

NEJM October 7, 1999; 341: 1140-41 Editorial by David F Williamson, Centers for Disease Control and Prevention, Atlanta,

---

10-7 DIETARY FIBER, WEIGHT GAIN, AND CARDIOVASCULAR DISEASE RISK FACTORS IN YOUNG ADULTS.

Resistance to insulin-stimulated glucose uptake usually induces compensatory hyperinsulinemia. Fasting insulin level is an excellent marker for insulin resistance – related to obesity, smoking, age, and physical inactivity. While this compensatory hyperinsulinemia serves to maintain glucose tolerance, chronic hyperinsulinemia may increase risk for cardiovascular disease **(CVD)** through a variety of mechanisms.

Diet may affect insulin levels in 3 ways: 1) modifying insulin secretion, 2) affecting insulin action at peripheral sites, and 3) promoting obesity.

Several lines of evidence suggest that dietary fiber may play a key role in the regulation of circulating insulin levels. It reduces insulin secretion by slowing the rate of nutrient absorption following a meal. Experimentally, insulin sensitivity increases, and body weight decreases on high-fiber diets.

This study tested the hypothesis that fiber consumption is independently and inversely associated with insulin levels, weight gain, and other CVD risk factors among adults.

Conclusion: Fiber consumption predicted insulin levels, weight gain, and other CVD risk factors more strongly than did total or saturated fat consumption.

STUDY

1. Multicenter population-based cohort study followed over 2900 healthy adults age 18 to 30.
2. Diet history was determined by a detailed quantitative food frequency questionnaire.
3. Dietary fiber was determined and recorded as g/1000Kcal/d.
4. Follow-up = 10 years. Main outcome measures – body weight, insulin levels, and other CVD risk factors.

RESULTS

1. After adjustment for potential confounding factors, dietary fiber intake showed linear associations (from the lowest quintile [5.9g/4184 kJ/d] to the highest quintile [10.5 g/1000Kcal/d]:

	Lowest quintile	Highest quintile
Weight	175 pounds	167 pounds
Waist/hip ratio	0.813	0.801
Fasting insulin (pmol/L)	78	72
Insulin 2-h post glucose challenge (pmol/L)	261	235

2. Fiber was also associated with more favorable levels of BP, triglyceride, high-density lipoprotein cholesterol, low-density lipoprotein cholesterol, and fibrinogen.
3. "In comparison with fiber, intakes of fat, carbohydrates, and protein had inconsistent or weak associations with all CVD risk factors. "

DISCUSSION

1. "We believe that the strong inverse associations between dietary fiber and multiple CVD risk factors – excessive weight gain, central adiposity, elevated blood pressure hypertriglyceridemia, low HDL-cholesterol, high LDL-cholesterol, and high fibrinogen -- are mediated, at least in part by insulin levels. Dietary fiber exerts a major effect on the glycemic, and therefore the insulinemic, response to carbohydrate in a meal."
2. A low fiber diet has a high glycemic index (a measure of the rate of carbohydrate absorption). This diet stimulates relatively more insulin secretion than a high fiber diet.
3. High circulating insulin levels may be related to hypertension, dyslipidemia, abnormalities of blood clotting factors, and perhaps direct vascular injury.
4. A recent meta-analysis of 12 prospective studies concluded that insulin concentrations had a positive and statistically significant effect on CHD incidence.
5. Like all observational studies, this study cannot prove causality. High fiber diets are typically associated with other healthful lifestyle patterns.
6. The study did not examine the effects of fiber type (soluble or insoluble), source (whole grain, refined grain, vegetable or fruit), or form (intact or processed). These variables, together with other biological active constituents associated with fiber (magnesium, vitamin E), may affect the insulin response to ingested carbohydrate. as well as CVD risk.
7. The data raise the interesting possibility that fiber may play a greater role in determining CVD risk than total or saturated fat intake.

CONCLUSION

Dietary fiber was inversely associated with insulin levels, weight gain, and other risk factors for CVD in young adults.

JAMA October 27, 1999; 282: 1539-46 Original investigation, The Coronary Artery Risk Development in Young Adults (CARDIA) Study, first author David S Ludwig, Children's Hospital, Boston, Mass.

Comment:

Post prandial insulin response depends, not only on the type of diet (glycemic index), but on the quantity of food intake at a given time. Would not simply eating less at one occasion, and more often decrease the glycemic-insulin response just as well as eating more fiber and low glycemic-index foods? Snacking may be good for you, provided the daily intake in calories is not increased RTJ

==========

10-8 FRUIT AND VEGETABLE INTAKE IN RELATION TO RISK OF ISCHEMIC STROKE

This study examined the relationship between fruit and vegetable intake in relation to incidence of ischemic stroke in 2 large cohorts of men and women -- the Nurses' Health Study of over 75 000 women for 14 years, and the Health Professionals' Follow-up study in over 38 000 men for 8 years. All subjects were free of cardiovascular disease, cancer, and diabetes at baseline.

Determined incidence of ischemic stroke by quintile of reported daily fruit and vegetable intake.

RESULTS

1. A total of 366 women and 204 men had ischemic stroke during follow-up.
2. For women, the lowest quintile of daily servings of fruits + vegetables was 3; the highest was 10; for men 3 and 9.
3. Ischemic stroke was inversely related to fruit + vegetable intake. The relative risk of those in the highest quintile of intake vs the lowest was 0.7.
4. The lowest risk was observed in those who had the highest consumption of cruciferous vegetables (broccoli, cabbage, cauliflower, brussel sprouts), green leafy vegetables, citrus fruits, and vitamin C rich fruit and vegetables. Legumes and potatoes provided no decrease in risk.
5. There was no apparent further reduction in risk beyond 6 servings per day.

DISCUSSION

1. These findings support a protective effect between consumption of fruits and vegetables – particularly cruciferous and green leafy vegetables and citrus fruits -- against risk of ischemic stroke.
2. But, intake beyond 6 servings per day provided little further protection.

CONCLUSION

"These data support a protective relationship between consumption of fruit and vegetables and ischemic stroke.

JAMA October 6, 1999; 282: 1233-39 Original investigation, first author Kaumudi J Joshipura, Harvard School of Public Health, Boston, Mass.

==========

REFERENCE ARTICLE

10-9 A QUALITATIVE ANALYSIS OF HOW PHYSICIANS WITH EXPERTISE IN DOMESTIC VIOLENCE APPROACH THE IDENTIFICATION OF VICTIMS

Guidelines do not address the complexity of physician's tasks in identifying, and intervening in, domestic violence. They do not provide insight into how physicians should navigate around the myriad patient and physician barriers to identification.

Victims of domestic violence are reluctant to disclose abuse. Physicians are reluctant to ask. Fear of retaliation by the partner, shame, humiliation, denial about seriousness of the abuse, and concern about confidentiality deter patients from disclosing abuse. The potential loss of confidentiality has repercussions far beyond issues of immediate personal safety. It threatens patients' responsibilities to their families and raises economic concerns and fears about police interference. All these are major barriers to identification of domestic violence.

Lack of time, lack of support resources, lack of education or training, fear of offending the patient, and frustration at the lack of change in the patient's situation or the patient's unresponsiveness to advice deter physicians from involvement. Physicians fear "opening the Pandora's box" and are concerned about their inability to "fix it".

This study describes how physicians who are committed to helping battered patients identify victims of violence in health care encounters.

STUDY

1. Conducted 6 focus groups in 45 emergency department, obstetrician/gynecologist, and primary care physicians who do identify and intervene with victims. Identified themes emerging from the data. Analyzed data according to the conventions of qualitative research.
2. The core focus group questions asked of participating physicians are listed on Page 579.

RESULTS

1. Physicians reported they identified an average of 28 patients per year as having been physically abused by an intimate partner.
2. Physicians thought they had helped about 2/3 of the patients.
3. Many physicians did not conduct *universal* screening for domestic violence because they perceived they would lack time or resources necessary to address the problem.
4. Some incorporated screening questions into their routine health history, in general using standardized questions carefully framed to minimize patient discomfort, and fear of being identified. Physicians included domestic violence among other safety questions (eg, seat belt use; gun safety). The implication was that they routinely asked all patients about domestic violence. “Domestic violence is a big problem in our society. Doctors have been asked to find out how many people have this as a problem, and we’d like to help people deal with it.”
5. Some physicians relied on ancillary staff to routinely screen.
6. The most frequently barrier to screening was mandatory reporting. Physicians repeatedly described confusion about the role of mandatory reporting, including requirements of the law, and concerns about the time and resources needed to fill out forms and get involved with police. They also discussed whether mandatory reporting promoted or jeopardized patient welfare.
7. Some discussed “burnout” or fatigue from trying to fit domestic violence screening into their busy schedules.

Patient signs and symptoms indicating possibility of domestic violence:

Past history of sexual, physical, or emotional abuse
Depression
Anxiety
Chronic headaches
Pelvic or vague abdominal pain that had not improved over time
Description of the injury does not fit the type of presenting injury
The “accident prone” patient
Injuries discovered when examining the patient for a different problem
With lack of disclosure as the norm, physicians must be careful to read patient cues, such as body language, tone, or hesitation.

Direct and indirect approaches to identification:

Some physicians describe how acute presenting injuries are “easy to go after” directly because they are obviously related to abuse.
More difficult are signs and symptoms that raise suspicion but are not accompanied by patient disclosure. In this case questions are couched indirectly in a way to give patients a “nice way out” or options for disclosure. (Eg,

"You know, I've seen things like this before. Sometimes this means that they are getting hit by their partner. Is it possible that is going on with you?")

It is more effective to approach the topic indirectly so as not to seem judgmental when patient's ethnic, class, sexual orientation, or cultural beliefs differ from those to the physician.

Some physicians point out the importance of developing a personal style in seeking disclosure.

Successful screening needs to be redefined so that compassionate asking in and of itself rather than gaining direct disclosure constitutes "success". The patient should know that the physician is concerned.

Conclusion:

This sample of physicians' experience may help others navigate around barriers to try to help victims. Screening questions should be carefully framed. Reassure patients that asking about intimate relationships is part of the physician's job. Help the patient to understand that domestic violence is prevalent. This approach aims to normalize the process of identification and disclosure. It minimizes fear of offending patients, patient shame and denial, and fears of being identified. It places domestic violence squarely in the domain of public health.

Developing an individual style and fostering patient trust are necessary -- indirect approaches to the topic of abuse, use of non-judgmental language, and making compassionate statements without pressuring for disclosure.

The need is to focus on building a respectful physician-patient relationship and creating openings for future disclosure rather than on "fixing the problem". The complicated dance of disclosure and identification helps patients feel safe and overcomes fear and denial.

Some physicians redefine the goals of universal screening and reframe their role. Rather than viewing identification as the first step in helping victims, they propose that the act of asking patients about abuse is the initial step in providing quality health care. Compassionate asking in and of itself constitutes success. "We encourage physicians to let go of having to 'fix' or 'cure it'; instead, universal screening or any inquiry about domestic violence can be used to give all patients a preventive antiviolence message and potential victims the message that abuse is wrong, they do not deserve it, and their physician cares."

Asking the question itself is helpful, with and without direct disclosure and identification, it can provide validation and help victims to change their situation and move toward safety.

The development and implementation of a standardized screening protocol has not eased the difficulty of identifying victims. "We suggest that the goals of universal screening be redefined so that the act of compassionate asking in and of itself, rather than the outcome of disclosure, constitutes success."

Annals Int. Med. October 19, 1999; 131: 578-84 Original investigation, first author Barbara Gerbert, University of California, San Francisco

Comment:

The approach to abused individuals must differ according to the circumstances of the individual patient and the individual attributes of each physician. Physicians must frame questions they are most comfortable with. The complete physician is able to cross cultural barriers.

Mandatory reporting laws for domestic violence (as in some states) may work as a disincentive for physicians to identify victims. I suspect many times physicians do not "obey the law".

I wonder ---- Are female MDs and FNPs better able to communicate with abused persons than males? Does the approach to abused males differ from that to abused females? RTJ

==========

10-10 INTEGRATING ROUTINE INQUIRY ABOUT DOMESTIC VIOLENCE INTO DAILY PRACTICE.

For many of the millions of persons subjected to domestic violence, the health care setting is the only place they will seek help. Health care providers play a crucial role in creating a safe atmosphere for patients to discuss the abuse they have experienced. Most Americans feel that, if asked, they could talk to a physician about domestic violence. One study of a cohort of battered women reported that the great majority favored direct inquiry about the violence.

However, battered women identify medical providers as among the least effective professional sources of help.

The Joint Commission for Accreditation of Health Care Organizations now requires hospitals and clinics to institute protocols and training to help providers identify victims of abuse, assess their needs, provide interventions, and make referrals to community-based advocacy services. "Because domestic violence is so prevalent and its presentations are so varied, inquiring only when abuse is suspected is no longer considered adequate. It is essential that questions about abuse be fully integrated into the medical history rather than viewed as optional components to be added when there is time."

Universal screening is, in fact, an intervention in itself. It lets patients know that domestic violence is not acceptable, and that help is available regardless of whether or not they choose to disclose. "The point is not identification, but provision of information, support, and a safe atmosphere for discussing abuse if and when the patient chooses to do so." "In a profession where competence is tied to a sense of mastery and control and in which one is rewarded for clinical success, we may forget that patients may define outcomes very differently than we do."

"Because domestic violence is a complex social problem rather than a strictly biomedical one, addressing it adequately obliges physicians to step beyond traditional medical paradigms."

Annals Int. Med. October 19,1999; 131: 619-20 Editorial by Elaine Alpert, Boston University School of Public Health, Boston Mass.

Comment: Should screening extend to include broaching the subject to perpetrators of domestic violence and well as victims?

As the editorialist suggests, responsibilities of the medical profession now extend far beyond the old traditional boundaries. We now seem responsible for detecting and trying to set straight abuses of guns, automobiles, and all manner of unhealthy lifestyles. The "Old Doc" would not recognize us. RTJ

Read the Original!

10-11 DIAGNOSING SUFFERING: A PERSPECTIVE

"Too much suffering is inadequately treated, and too much suffering is undiagnosed and unrelieved."

Making a diagnosis of suffering differs from the usual diagnostic process. Suffering is an affliction of the person, not the body. Some patients suffer with pain and other symptoms whereas others do not suffer from the same symptoms to the same degree. What causes suffering in one person may not do so in another. "Suffering is not only personal – that is, involving the person – it is also individual."

We know that suffering seems related to the meaning of the symptom—when, for example, terminal cancer is the cause, or death threatens, suffering is more common. Fear of the future contributes to suffering.

Suffering involves at least some symptom or process (physical or otherwise) that poses a threat, the meaning of that threat, fear, and concerns about the future. Suffering has been defined as a specific state of distress that occurs when the intactness or integrity of the person is threatened or disrupted. The severity of the affliction is measured in the individual patient's terms.

The language that describes and defines suffering is different from the language of medicine.[1] There is too often a disconnect between our case history and the patient's narrative. "Herein lies one of the reasons for the inadequate relief of suffering." Physicians are trained primarily to find out what is wrong with the body in terms of diseases or pathophysiology. They do not examine what is wrong with persons. "When physicians attend to the body rather than to the person, they fail to diagnose suffering."

The care of the suffering patient (attending to the person) means more than caring about the patient or being compassionate. Lack of recognition of suffering does not come about only because of the absence of compassion, it is also the result of physicians' poor diagnostic and therapeutic knowledge and skills about persons –- that is, an inability to focus on the person rather than the disease.

Making a diagnosis of suffering means first of all maintaining a high index of suspicion. "I know that you have pain, but there are things that are even worse than pain. What exactly are you frightened of? What is the worst thing about all this?" Tell patients they have permission to talk about things that usually no one wanted to hear before. Physicians may be concerned that they will be helpless in the face of the patient's answers. It is often surprising how little is actually required of the physician and how little time the process takes. Asking and attentively listening are usually helpful in themselves.

It is the nature of the person and the specific threats to their personhood that determine the nature of suffering. The hard part is to simply open in the presence of the patient, as though there were a door to the inside of you –- to your heart and soul, call it what you will. And you consciously opened it so the patient would flow into you. This has been labeled sympathetic listening, empathic communication, or empathic attentiveness. It can be taught and learned. Properly done, no one but you will know exactly what is happening, not even the patient. She will simply experience you as being trustworthy, caring, and understanding. Learning these skills makes it possible to diagnose and treat suffering even when the cause cannot be removed. "The crucial step is starting on the path to knowledge about patients as persons. The relief of suffering depends on it."

Annals Int. Med. October 5, 1999; 131; 531-34 "Perspective", Essay by Eric J Cassell, Weill Medical College, Cornell University, New York.

1 Suffering extends far beyond physical pain. Suffering from anxiety, depression, guilt, remorse can be extreme. Only the patient's own narrative can describe the extent of his or her suffering. Narratives by sensitive authors can alert us to listening and understanding. Some of the most acute suffering occurs in parents of a desperately ill child. We must learn to recognize suffering of families. RTJ

==========

Recommended Reading

10-12 LYING FOR PATIENTS: Physician Deception of Third Party Payers

Physicians have experienced pressure from managed care organizations **(MCOs)** to reduce utilization and curtail costs. This limits physician autonomy and creates an ethical dilemma – how to reconcile professional responsibilities as patient advocates with potentially conflicting contractual obligations to third party payers.

Anecdotal evidence suggests that some physicians, in order to secure treatment for some patients choose to maintain the appearance of compliance while skirting managed care guidelines. This deception, primarily in the form of incorrect or ambiguous documentation has been called "gaming the system".

This study assessed physicians' willingness to deceive a third party payer, and physician attitudes toward deception.

Conclusion: Many physicians sanction use of deception to secure third party payers approval of medically indicated care.

STUDY

1. A cross sectional survey presented 6 vignettes of varying clinical severity to over 150 physicians in order to assess willingness to use deception: A) coronary bypass surgery; B) arterial revascularization; C) intravenous pain medication and nutrition; D) screening mammography; E) emergent psychiatric referral; and F) cosmetic rhinoplasty.
2. Physicians were informed that for each vignette: 1) the patient was seeking only the specific procedure or referral discussed, 2) the patient cannot afford the procedure because of financial hardship, and no external resources are available, 3) local colleagues are unwilling to provide the service unless they are reimbursed, 4) despite diligent efforts by the physician, the third-party payer is unwilling to change reimbursement policy regarding the particular case, and 5) third-party payer checks documentation, but does not confirm clinical findings.
3. The deception involved using untrue statements the physician knew the third-party payer would accept: A) "increased frequency of chest pain", B) "new skin changes, pregangrenous", C) "recurrent vomiting", D) "suspicious breast lump", E) "patient states suicidal ideation", F) "deviated septum, problems breathing".

RESULTS

1 Percentage of physicians willing to use the deception for each vignette: A) 58%; B) 56%; C) 47%; D) 2%; E) 35%; F) 3%.

2. Rates were highest for physicians practicing in areas where the market was dominated by managed-care organizations.

3. About one quarter of physicians did not support deception in any case.

4. In only the coronary artery bypass vignette did respondents believe that they themselves, their colleagues, and society would agree on the justifiability of deception.

5. Physicians consistently assumed that society would provide greater justification ratings than they (the physicians) would.

6. About 3/4 of physicians believed their primary professional responsibility was to practice as their patient's advocate; working within the rules and restrictions of third party payers, so long as those rules did not significantly compromise the patient's interests.

DISCUSSION

1. Many physicians sanctioned the use of deception to obtain medical care when authorization denied by a third-party payer.

2. Deception was sanctioned by the majority of physicians in the 2 most clinically severe vignettes – coronary by-pass
11 and arterial revascularization

3. Most physicians reported that it is their duty to work as patient advocates within the rules of third-party payers only
12 until those rules compromise their patient's care. This underlying attitude may represent physicians' justification for sanctioning deception.

4. Recent studies show that patient concerns about maintaining insurance coverage and ensuring continued access to care through service reimbursement have become more frequent reasons for deliberate miscoding.
5. "The American College of Physicians' Ethics Manual states that physicians are not obligated to lie to a third party payer for a patient, but it does not expressly condemn deception to obtain care. The American Medical Association's Council on Ethical and Judicial Affairs specifically enjoins physicians from using deception or gaming the system and instead, urges physicians to work through the appeals process of the MCOs."
6. "Current case law holds that physicians who are willing to accept an MCO's limits on provision of care have no immunity from civil liability related to the withholding of care. Respondents who feel strongly compelled to follow contractual rules might be surprised to find that compliance with MCO rules does not decrease their exposure to malpractice or legal obligation to patients."
7. The practice of medicine now extends beyond the patient-physician relationship. Physicians and patients are contractually bound to their-party payers and their rules. Occasionally, such obligations conflict with physicians' obligations to act as patient advocates. Although using deception to solve impasses may succeed in the interim, the long-term costs in loss of integrity are high.
8. "Refusal to initiate a social dialogue regarding the appropriate balance between medical and economic considerations places medicine at risk of becoming a practice of equal parts patients care and subterfuge."

CONCLUSION

Many physicians sanction the use of deception to secure a third-party payers' approval of medically indicated care. A new ethic of cost control in the use of limited resources conflicts with the old ethic of patient advocacy.

Archives Int Med October 25, 1999; 2263-70 Original investigation, first author Victor G Freeman, Georgetown University Medical Center, Washington, DC

==========

10-13 WALKING COMPARED WITH VIGOROUS PHYSICAL ACTIVITY AND RISKS OF TYPE 2 DIABETES IN WOMEN.

Strong epidemiological evidence suggests that physical activity is associated with reduced risk of type 2 diabetes. Increasing evidence supports the beneficial effects of moderate-intensity activity.

This study used detailed and repeated assessments of physical activity to quantify the dose-response relationship between total physical activity and incidence of type 2 diabetes in women. The study also compared walking (the most common form of physical activity in the middle-aged and older populations) with more vigorous activity.

Conclusion: Walking was associated with substantial reduction in risk of type 2 diabetes.

STUDY

1. A subset of the Nurses' Health Study prospectively followed over 70 000 women aged 40 – 65. At baseline, none had diabetes, cardiovascular disease, or cancer.
2. Periodically included updated and detailed data for physical activity.
3. Determined risk of type 2 diabetes by quintile of metabolic equivalent task (MET-hour) score, based on time spent per week on each of 8 common leisure-time physical activities, including walking.

4. Walking requires an energy expenditure of 2 to 4.5 METs, depending on pace. It was considered moderate-intensity activity. Vigorous exercise can expend 10 to 20 METs. (Thus, walking at a pace of 3 METs for 1 hour = 3 MET-hours of exertion; exercising vigorously at 10 METs for 1 hour = 10 MET-hours.)
5. Type 2 diabetes was diagnosed by the old standard criteria – fasting plasma glucose 140 mg/dL of more, and/or random glucose levels over 200.

RESULTS

1. During 8 years of follow-up, documented over 1400 incident cases of type 2 diabetes.
2. After adjusting for multiple co-variates, the relative risks **(RR)** of developing type 2 diabetes across quintiles of activity from least to most: 1.0, 0.77, 0.75, 0.62, 0.54
3. Equivalent energy expenditures from walking and vigorous activity resulted in comparable magnitudes of risk reduction. (Ie, burning an extra 2000 kcal per week would require a longer time spent in walking than when performing vigorous exercise, but risk reductions are comparable.)

DISCUSSION

1. A greater leisure-time physical activity level, in terms of both duration and intensity, was associated with reduced risk of type 2 diabetes.
2. "The inverse association between energy expenditure from walking and risk of type 2 diabetes was similar to that for total physical activity and likewise persisted after controlling for BMI."
3. Few women engaged in regular vigorous activities. Among individual vigorous activities, calisthenics and aerobics were associated with the greatest reduction in risk.
4. A single bout of physical activity increases insulin-mediated glucose uptake for more than 24 hours. Glycogen synthesis is also increased.
5. Other studies report that, compared with structured aerobic physical activity, moderate intensity activity had similar benefits on cardiorespiratory fitness and cardiovascular risk factors, including blood lipids and blood pressure.

CONCLUSION

These data suggest that greater physical activity is associated with substantial reduction of risk for type 2 diabetes.

JAMA October 20, 1999: 282: 1433-39 Original investigation, first author Frank B Hu, Harvard School of Public Health, Boston, Mass.

Comment:

The benefit results from an additional purposeful weekly increase in energy expenditure (calorie burning). Although aerobic exercise burns calories faster, brisk walking can burn the same amount but at a slower rate. The totality of extra calorie burning, not the rate, is the determining factor.

My calculations: Walking one mile at a rate of 3 miles per hour (at about 3 METs) burns about 100 Kcal. Walking one mile at a rate of 3 miles per hour will take about 20 minutes. Walking 1.5 miles will take about half an hour and consume 150 Kcal. Thus, walking briskly 30 minutes a day for one week will burn an extra 1000 Kcal. RTJ

==========

10-14 A 10-YEAR PROSPECTIVE STUDY OF PRIMARY HYPERPARATHYROIDISM WITH OR WITHOUT PARATHYROID SURGERY

In most patients in the Western World, primary hyperparathyroidism is now an asymptomatic disease. What is the natural history of the disease? When is surgery indicated?

This prospective study was designed to determine the natural history of the disease, and to assess the results of surgery.

Conclusion: About 3/4 of patients who did not undergo surgery did not have progression of the disease over 10 years; 1/4 did. Surgery normalized biochemical values and increased bone mineral density.

STUDY

1. Followed the clinical course of 121 patients with primary hyperparathyroidism for up to 10 years;
   101 (83%) were asymptomatic, 20 (17%) were symptomatic (kidney stones).
2. Baseline characteristics:
   Mean age = 55; 75% female; mean serum Ca = 10.8 mg/d (normal = 8.4 to 10.2); mean parathyroid hormone 120 pg/mL (normal = 10 to 65).[1] Bone mineral density **(BMD)** was decreased compared with the mean BMD of age and sex-matched controls.
3. Indications for surgery (patients met at least one indication): Serum Ca >12 mg/dL; urine Ca > 400 mg/d; markedly reduced cortical bone density of the radius; unexpected reduction in creatinine clearance; age less than 50.
4. Sixty one underwent parathyroidectomy; 60 were followed without surgery including 8 with symptomatic disease. Surgery was declined mainly by patient choice.

RESULTS at 10 years:

1. Asymptomatic patients (n = 101)
   A. Parathyroidectomy (n = 49)
      Serum Ca normalized; mean increase in BMD
   B. No surgery (n = 52)
      Serum Ca, urine Ca; and BMD remained abnormal.
      27% had progression of the disease indicated by at least one new indication for surgery.
2. Symptomatic (kidney stones; n= 20)
   A. Parathyroidectomy (n = 12)
      Normalized Ca levels; BMD increased. None had recurrent stones
   B. No surgery (n =8)
      Six of the 8 had recurrent stones.

DISCUSSION

1. Successful surgery led to sustained increases in BMD in patients with primary hyperparathyroidism.
2. But, 75% of the patients who did not undergo surgery maintained a stable BMD over 10 years.
3. However, BMD was not stable in all patients. Those who entered the menopause during follow-up were at increased risk of bone loss (as are normal women who enter the menopause). The absence of reliable predictors of bone loss makes regular measurement of bone mineral density mandatory. Since women with

hyperparathyroidism are at risk of progression of increasing bone loss at the time of menopause, they should consider surgery.[2]

4. "Our results suggest that patients with symptomatic primary hyperparathyroidism should undergo surgery. In both patients with and those without symptoms, parathyroidectomy can be expected to result in biochemical cure and increases in bone mineral density."
5. BMD and biochemical test results did not change significantly (but remained abnormal) in about 3 of 4 patients with asymptomatic hyperparathyroidism over a 10-year follow-up.
6. Because some asymptomatic patients have progression of the disease over time, periodic BMD measurements should be performed in those who do not have surgery. This ". . .will permit timely recognition of worsening of the disease, and indications for surgery as they develop, and should allow most patients with asymptomatic hyperparathyroidism to be monitored without surgery."[3]

CONCLUSION

In patients with primary hyperparathyroidism, parathyroidectomy resulted in the normalization of biochemical values and increased BMD. Most asymptomatic patients who did not undergo surgery, did not have progression of the disease over 10 years, although about 1/4 of them did.

NEJM October 21, 1999; 341: 1249-55 Original investigation, first author Shonni J Silverberg, College of Physicians and Surgeons, Columbia University, NY

1 This illustrates the diagnostic point – an elevated patathyroid hormone level acconparying an elevated calcium. The feedback system normally would reduce patathyroid hormone.

2 Why wait until menopause occurs? Then the osteoporosis of the menopause will be added to the osteopenia of hyperparathyroidism. And risks of surgery will increase with age.

3 See the following abstract for a different view on this point. RTJ

==========

10-15 TREATMENT OF PRIMARY HYPERPARATHYROIDISM

(This editorial comments and expands on the preceding study)

Primary hyperparathyroidism can be cured in only one way – surgical excision of abnormal parathyroid tissue, which in about 90% of patients is an adenoma.

For now, many patients must chose between an operation and no treatment.

Nearly 10 years ago a consensus conference concluded that surgery need not be routinely recommended for patients over age 50 whose serum calcium concentrations were less than 1.0 to 1.6 mg/dL above the upper limits of normal, and who had no hypercalciuria, nephrolithiasis, renal insufficiency or osteopenia. This recommendation was made after it became clear that many patients with primary hyperparathyroidism were relatively asymptomatic, and that the disorder was not relentlessly progressive.

"Some patients may indeed be asymptomatic, but many have physical or neuropsychological disabilities that may improve after surgical cure." Being asymptomatic does not necessarily mean unharmed. Even if there are no symptoms, there may be a substantial decrease in BMD and therefore an increased risk of fracture.

The rate of progression of the disease may be slow. Over time, the initial increase in bone resorption may be counterbalanced by increased bone formation.

"Treatment has both subjective and objective benefits for patients with mild hyperparathyroidism, even though the disorder does not seem to have an adverse effect on long-term mortality."

Now, the location of the adenomas or the presence of hyperplasia can be identified by technicium-99m imaging in most patients. Surgeons know what they are looking for and where to find it.

In summary: Most patients with primary hyperparathyroidism probably have symptoms of the disease. The symptoms may be subjective, or may be due to nephrolithiasis or osteopenia. Surgery improves both types of symptoms, as well as preventing recurrent stones and reversing osteopenia. Surgical treatment is now much simpler and faster than in the past. "It should now be recommended for nearly all patients."

NEJM October 21, 1999; 341: 13011-02 Editorial by Robert D Utiger, NEJM Staff.

==========

10-16 BRIEF PHYSICIAN- AND NURSE PRACTITIONER- DELIVERED COUNSELING FOR HIGH-RISK DRINKERS: *Does it work?*

On outpatient screening, up to 25% of patients identify themselves as drinking alcohol at high-risk levels. Most have contact with physicians during each year. Previous studies indicate that socially stable, heavily drinking patients seen in general practice respond to intervention strategies consisting of 30 minutes of alcohol-related advice.

This study was designed to determine if screening and brief counseling interventions, as part of routine primary care, are efficacious in reducing alcohol consumption by high-risk drinkers.

Conclusion: Very brief (5 to 10 minute) advice significantly reduced consumption.

STUDY

1. Entered over 9000 patients seeking routine primary medical care. Screening questions on alcohol use were embedded in a set of questions in a standardized screen of health habits conducted in physician's offices in the context of regularly scheduled visits.
2. Identified and then entered over 500 high-risk drinkers (mean age 44; baseline drinks / wk = 18. Family history of alcohol abuse almost 50%. [1]
3. Defined high-risk drinkers as:
   A. Men who drank more than 12 standard drinks per week, or who binged (5 or more drinks on 1 or more occasions) in the previous month.
   B. Women who drank more than 9 standard drinks per week, or who binged (4 or more drinks on one or more occasions in the previous month.
4. Only 2% reported symptoms or signs of alcohol dependency. They were not excluded.
5. Divided the patients into usual care and special intervention.
6. Counselors received training in a patient-centered alcohol intervention program. They focused on number of drinks per week or on binge drinking, depending on the problem. Counseling sessions were brief – 5 to 10 minutes. Educational materials were provided. (*See p 2202 for an algorithm outlining screening and intervention.)*

7. Primary outcome measures were change in alcohol use from baseline to 6 months measured by weekly alcohol consumption, and frequency of binge drinking. About 40% received only one counseling intervention.

RESULTS

1. At 6-months, alcohol consumption was significantly reduced in the intervention group vs the usual care group: - 6 drinks per week vs –3.5 drinks.[2]
2. Women's consumption fell somewhat more than men's.

DISCUSSION

1. Significant reductions in alcohol consumption can be achieved for high-risk drinkers with screening and brief (5 to 10 minute) alcohol counseling.
2. A brief provider-delivered intervention can be conducted in the context of a regular office visit.
3. High-risk drinkers far outnumber alcohol dependent drinkers. "The focus of intervention should be on patients with mild to moderate alcohol problems.
4. Screening and a very brief, low intensity, patient-centered counseling intervention delivered by a primary care provider during a regularly scheduled visit can have a significant impact on high-risk drinkers.

CONCLUSION

Screening and very brief (5 to 10 minute) advice and counseling delivered by a physician or nurse practitioner as part of routine primary care significantly reduced alcohol consumption by high-risk drinkers.

Archives Int. Med. October 11, 1999; 159: 2198-2295 Original investigation, first author Judith K Ockene, University of Massachusetts Medical School, Worster.

Comment:

1 This correlation is extraordinary. Carefully worded questions about family drinking habits should be included in the routine history.

2 Did the screening intervention itself have any effect on lowering intake?

Some interventions are subject to repeated investigations and reports in the literature, (eg. interventions for cardiovascular risk reduction, and alcohol problems.) They almost always arrive at the same conclusion.

We must ask why so many repetitions Regardless of the answer, the studies are helpful in several ways: reinforcing the strength of the intervention and refreshing our memories which may lead to application by primary care clinicians. RTJ

==========

Read the Original!

10-17 IS INTEGRATIVE MEDICINE THE WAVE OF THE FUTURE?

A Debate between Arnold S. Relman, MD and Andrew Weil, MD

Andrew Weil is the leading proponent of integrative medicine. Dr. Relman is editor-in-chief emeritus, New England Journal of Medicine, and an outspoken critic of alternative, complementary, or the preferred term among proponents, integrative medicine.The debate concentrated on whether alternative medicine can and should be combined with conventional medicine to create a new entity called integrative medicine.

Dr. Relman:

"Most alternative systems of treatment are based on irrational or fanciful thinking, and false or unproven factual claims. Their theories often violate basic scientific principles and are at odds not only with each other, but with current knowledge of the structure and functions of the human body."

"Why on earth would we now want to drive a wedge between medicine and science?"

Alternative medicine depends . . ."for its verification largely on personal belief and subjective experience". ".. . it makes no distinction between objective phenomena and subjective experience or between the external world and human consciousness".

"Since alternative practitioners are convinced that individual experience is the ultimate verification of truth, most of them do not see the need to obtain objective statistically significant data in order to test whether their methods really work."

"Without objectively verifiable evidence, there is no reason to believe the claims of alternative medicine, particularly when there is no plausible biological mechanism by which many of its methods might work."

Dr. Relman cites a number of unproven and highly unlikely claims made by Dr Weil:

Improper breathing is a common cause of ill health.

Massive doses of vitamin C speed the healing of surgical wounds.

Meditation or hypnotherapy will reduce the frequency of recurrent herpes simplex.

Topical application of human urine is effective treatment for athlete's foot

Two tablespoons of flaxseed daily reduces risk of breast cancer.

Therapeutic touch can heal disease through the manual transmission of energy that is too subtle to be detectable by instruments.

Belief alone, without any physical intervention can cure organic diseases as proven by visits to miracle shrines, faith healers and Christian Science Practitioners.

" Alternative practitioners, so far, have had very little use for the conventional scientific approach, preferring instead their own "personal-friendly" version of "alternative science' which depends more on subjective experience and intuition than on objective quantitative evidence."

Dr Weil;

"I consider experience to be one valuable source of data – in my experience, many patients use alternative methods because they work. If a patient has tried a method and found that it works, that patient needs no further proof, does not need to read the reports of a randomized double-blind controlled trial in a medical journal to be convinced of the efficacy of treatment."

"The vast majority of patients who have come to me . . .are patients who have been through conventional medicine, often many times over, have been tested to death, have tried many conventional therapies, and have found that they haven't worked or have caused harm or both, and it is that which motivates them now to look for other kinds of treatments." "It is that widening gulf between patient expectations and physician realities that is leading so many patients to go elsewhere for treatment."

"I would like to say something about the issue of science-based medicine. I consider myself a scientist. The word science comes from the root of a verb *to know*. There are various ways of knowing. One is paying attention to one's own experiences . . ." "Another way is from the collective experience of other cultures."

"Fewer than 30% of procedures currently used in conventional medicine have been rigorously tested." "Medicine constantly operates in areas of uncertainty where the evidence has not yet come in. There is a great difference between being a researcher and being a practitioner. As a practitioner, you are in the trenches working with patients who have medical needs and you often have to guess to use your best medical judgement in the absence of definitive evidence. What do you do then? It seems to me that you do the best you can, and the first principle from which you operate, or should operate, is that you do no harm." "If integrative medicine did nothing other than reduce the incidence of this direct kind of iatrogenic harm, I think it would be very worth incorporating into our medical schools and teaching."[1]

"I feel strongly that integrative medicine is the future, not only because people want it, but because very powerful forces operating both within science and outside of science are moving in that direction."

Archives Int Med October 11, 1999; 159: 2122-2126 Debate monitored by James E Dalen, editor, Archives Internal Medicine.

1 It seems to me this equates to doing nothing. RTJ