

# QUORUM

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Quorum  
Consulting®

The Power to  
Make Decisions®

## *how to manage* **MANAGED CARE**

Before 1973, few Americans had access to prepaid group healthcare plans. Fee-for-service arrangements were preferred by doctors. Under this cost-based reimbursement, doctors had little incentive to control prices, so medical costs were rising to extreme levels. To manage this, the Nixon administration passed the Health Maintenance Organization Assistance Act in 1973 which gave rise to HMOs. HMOs were developed to house healthcare and insurance within one company.

Since then, the face of healthcare has changed dramatically. There are many options for patients looking to buy healthcare plans. Plans have been created to attract different patients to plans unique to their medical needs and financial capabilities. This document will tease out the intricacies of managed care as it is today.

### **Member Payments**

Before going into benefit types, it is important to understand payment jargon and methods within each policy type.

Each type of benefit will require a monthly payment for the insurance policy, this is called a premium. On top of the premium, in HMOs, the patient pays a co-payment for each visit or service rendered. Co-payments for this benefit

type are a fixed, flat rate; usually \$5-30. For indemnity plans and PPO plans, there are deductibles. A deductible is the full payment by member for initial services until limit is reached. Once this limit is reached, the insurance benefit will pay for services. Co-payments in indemnity or PPO plans are usually a percent of the charges paid by the member per visit. The remaining percent of the charges is paid for by the insurance company in full once the member's deductible is met.

### **Health Maintenance Organizations (HMOs)**

HMOs organize, control, pay for and provide almost every aspect of healthcare that a member may need. HMOs are organized networks of pre-selected doctors, hospitals and other

specialty providers. Patients are only allowed to see the doctors and use hospitals inside their designated network. If a patient is seen by an out-of-network provider, the cost of care won't be paid for unless the care was authorized ahead of time by the HMO, or it was an emergency.

HMOs are set up so that the patient has a primary care physician (PCP), also known as a gatekeeper. Primary care physicians are usually family doctors, internal medicine doctors, pediatricians or obstetrician/gynecologists. The gatekeeper arranges or authorizes all of the patient's care. Patients who have HMO plans are required to obtain permission from this doctor before seeing any medical

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# Kuo's Corner

**I used to daydream frequently as a kid, and enjoy the times when I have the chance to today.**

(Except that is when I am walking down the stairs to my basement!)

I often think about...

what it was like for Jason when it was just the two of us in an empty office on Post Street  
why we like to be nostalgic

what people like Miki, Erica, Brad, and Alex are up to  
what Alex, Brad, Erica, and Miki would think if they could see today what Quorum has become

how Richard can make sense of three different "hotlines"  
how Bridget C. managed one phone for so long

how much I've grown as a husband and father  
how much I've learned from my Quorum family

what it's like to be in the VA office day to day  
how it would feel to have air conditioning every now and then

what it must be like to leave an existing job to come to Quorum  
how it feels to land your first job after school  
why we are so fortunate to have the staff we do

what people think about Quorum when they respond to a job posting  
how difficult it would be for me to interview for a job if I had to

what the "treats" are like in the VA office  
how many fajitas we've eaten this past year

how exciting it was to hold that off site meeting at the Westin two years ago  
how exciting it was to wait for the arrival of the VA staff in December

what the social committee talks about during their meetings  
how the call center team manages to squeeze it all within 60 minutes

what's the best way to describe Quorum currently  
what adjectives we want to become

*-Kuo Tong*



*Linda Butler*

# IT Committee

## **With today's advancements in technology and access to the World Wide Web, our clients' needs**

are becoming more reliant on support from a technological standpoint. Quorum is evolving into a company with ever changing technological needs and is committed to its own advancement in this field to provide our clients the best service possible. In order for Quorum to keep up with the fast paced environment of technology it is vital that we stay up to date on how technology can help us better serve our clients.

Quorum's commitment to excellence and to its clients has spawned the need for a committee that will raise and solicit information from its peers and will actively discuss issues as they relate to Quorum's changing IT scope and needs.

An IT committee has been formed within Quorum that is comprised of both technical and non-technical members. The committee members are Nicole Coustier, Tricia Tong, Bridget Caldwell, Jason Cheng and Michael Kiefer. The committee meets periodically to discuss technological advancements and issues as related to the IT world within Quorum and to take action on these items. This committee will also discuss and create policy according to IT best practices and produce materials and guidelines to benefit the entire company.

One of the current projects the committee is working on is the Quorum IT User Manual. The committee has identified areas where a guide or manual would be of great assistance to the user community. The user manual is scheduled to be completed in the second quarter this year.

I have included an excerpt from the manual to give you an idea of what to expect. It is a guide outlining an effective procedure for copying files to and from your PC. The title of the excerpt is "Best Practices for Copying Files." This guide included in the newsletter exemplifies the type of helpful instructions that the user manual will contain when finished.

Michael Kiefer  
Information Technology Director



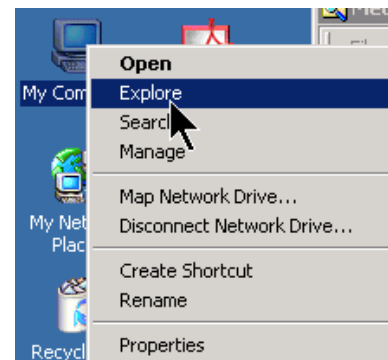
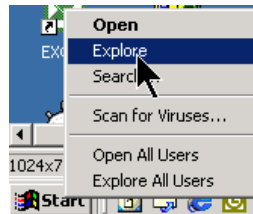
# Best Practices for

Windows Explorer is the most efficient method for copying and moving files. The following steps will guide you through this method. This applies whether you are copying from a local folder located on your PC to another local folder or when copying from one of your local PC drives to a network drive located on any network server.

## Step 1

From the Desktop, right click on the **My Computer** icon and select **Explore**.

You may also choose to right click on the **Start** button and select **Explore**.

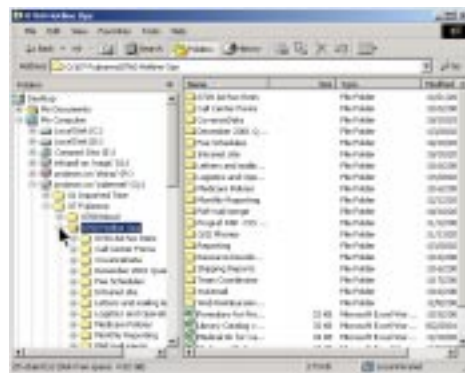


## Step 2

In the **left pane**, navigate to the location where the file you want to copy exists. Do this by clicking on the **+ symbol** to the left of the drive letter and folders until you reach the location of the file you wish to copy.

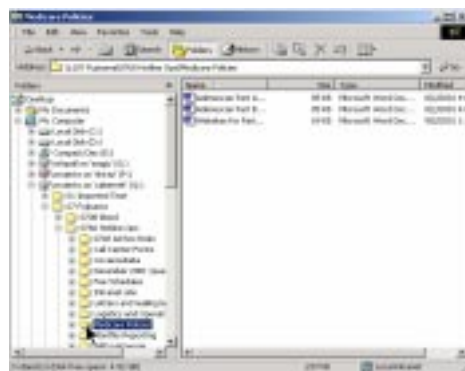
### Note:

Clicking on the **+ symbol** is a more efficient way to navigate in that the folder or drive does not open in the right pane which adds time to the process.



## Step 3

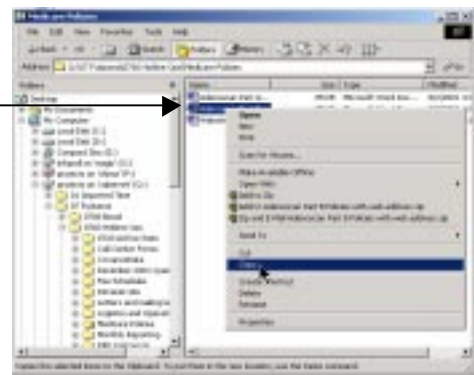
Once you locate the folder in the **left pane** where the file you intend to copy exists, click once on that folder. The contents of the folder appear in the **right pane**.



# Copying Files

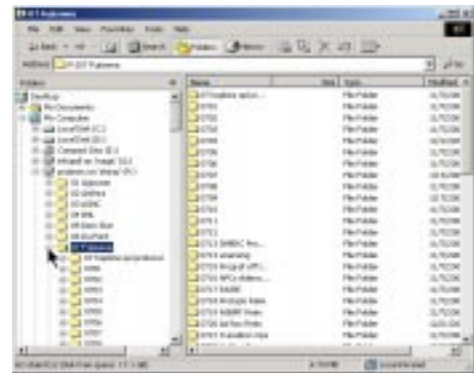
## Step 4

From the **right pane**, right click on the file you wish to copy. A menu like the one to the right appears, select **Copy**.



## Step 5

In the **left pane**, navigate to the location where you wish to place the copy of the file. Once again, do this by clicking on the **+ symbol** to the left of the drive letter and folders until you reach the location where you wish to place the copy of the file.

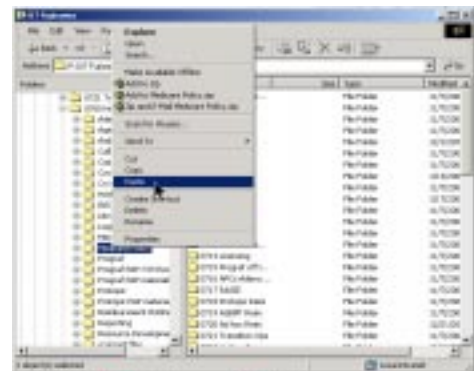


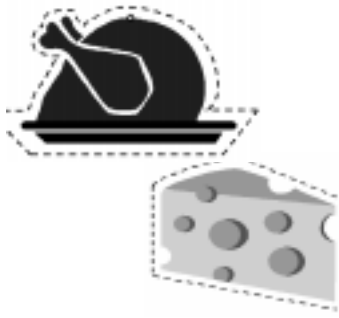
## Step 6

Once you reach the destination folder where you wish to place the copy of the file, right click on that folder and select **Paste**.

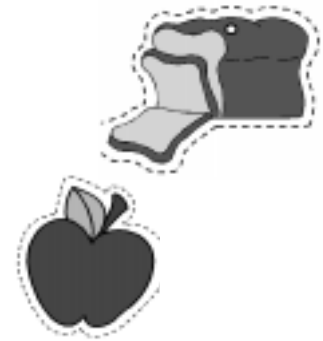
### Note:

When copying a file to a server other than your home server, an error may pop up such as the one to the right. This can occur **if** the file you are copying is large in size or **if** you have not connected to that server in a while. If this does occur, click **OK** and repeat **steps 5 & 6**.





# Nutrition and *Quality of Life*



***The American Heart Association reports that coronary heart disease (CHD) is the number one cause of death in the United States, especially among those 65 and***

***older.*** Although CHD has been declining since the 1970s, the Centers for Disease Control and Prevention note this decline has slowed in the 1990s, and people with CHD currently in the US number approximately 12 million, with 1.1 million having an adverse coronary event each year (such as heart attack). The National Centers for Health Statistics reports that diabetes is also a disease with high prevalence in the United States – approximately 7 million Americans had the disease in 1996 and of these, about 64,000 died due to diabetes or complications surrounding diabetes. Other conditions, including those associated with the aging process (memory loss, bone loss), are harder to quantify, but science's efforts to combat these conditions are similar to other, more prominent diseases, and it begins with an individual's diet over the course of his or her lifetime.

Studies have shown that proper nutrition leads to improved immune systems, lower disease rates, and a general feeling of well-being and emotional satisfaction. The last of these results is less objective and has had the least clinical, investigative study attached to it.

## A PROPER DIET

A proper diet combined with adequate, regular exercise has been shown repeatedly to be beneficial for an individual's health. But what is a proper diet?

Fad diets come and go, and it may be very difficult for the average consumer to sort through the numerous specialty diets that promise results with weight loss, strength gain, energy revitalization, and so on. When considering a patient's health over the span of his or her lifetime, however, these fad diets do not provide adequate micronutrients necessary to combat disease and prevent symptoms and conditions associated with aging. Consequently, poor nutrition may affect a patient's utilization of healthcare over time.

A healthy diet is defined as the proper intake of fats, proteins, and carbohydrates.

### *Fats*

Saturated fats are solid at room temperature. The higher the degree of saturation, the greater the heat needed to liquefy the fat. This type of fat should be reduced – avoided, if possible – in order to help prevent disease that might lead to adverse coronary events.

Unsaturated fats have one or more bonds not occupied by hydrogen atoms, and therefore, are not as damaging to one's health. One unoccupied bond is considered monounsaturated (such as olive, canola, or peanut oil), and more than one unoccupied bond is considered polyunsaturated (examples are corn, sesame, or soy oil). In addition, omega-3 fatty acids are known to have a beneficial, protective effect on one's health. These fats are highly unsaturated and are found in fish from cold,

northern water, such as salmon and sardines.

One important note is that hydrogenation, a technique used in the processing of many packaged foods, transforms unsaturated fats to solids at room temperature, thereby rendering them saturated.

### *Proteins*

Proteins can be found most densely in animal meat, fish, and milk products, but it can also be found in lesser amounts in beans, grains and some nuts.

The digestion of protein is an energy-intensive process for the body. If an individual consumes more protein than the body needs, the body will expend a great amount of energy in digesting and excreting the excess. This is to be avoided.

One important consideration in the consumption of proteins is the danger of toxicity – chemicals, hormones, and antibiotics added to animals for increased production. These toxicities are potentially passed on to people consuming them, not only by way of animal meat, but also through milk products. In general, fish and soy are excellent sources of protein and carry fewer hazards.

### *Carbohydrates*

Carbohydrates consist of sugars and starches. It is this food group that has perhaps had the most controversy in recent decades. Traditional thought was that a diet low in fat and high in carbohydrates was the healthiest choice. Results from this sort of diet, however, have shown the American public becoming more prone to obesity and diabetes.

# Physical Benefits

Some of the health benefits of proper nutrition were discussed in the section above, but in this section, the benefits are explored in more detail.

## *Heart disease*

Proper nutrition can affect cardiovascular health to a large degree, especially when considering the type of fats included in one's diet. Saturated fats contribute to a person's build-up of cholesterol in the arterial walls. This leads to atherosclerosis, or the hardening and perhaps eventual blockage of arteries. Saturated fats can build up as low-density lipoprotein, or LDL, cholesterol – this is the “bad” cholesterol associated with heart disease. High-density lipoprotein, HDL or “good” cholesterol, can pull LDL cholesterol from the arterial walls so that it can be taken to the liver and broken down and disposed through bile.

## *Diabetes*

Reducing carbohydrates in the diet can improve one's health. Research has shown that certain carbohydrates are absorbed by the body at a very fast rate. The result is an immediate high blood glucose level, which then triggers the release of insulin to metabolize the sugars for use by the body's tissues. This sharp rise in insulin levels may result in lightheadedness or fatigue. Storage of excess carbohydrates in the body can lead to obesity, and the high levels of insulin in the bloodstream over time can lead to Type II diabetes, which is a disorder that results from not making enough insulin or not being able to effectively use the insulin released by the body.

## *Aging*

There have been indications that omega-3 fatty acids can promote anti-inflammatory properties in the body, decreasing symptoms in patients with arthritis, asthma, and even potentially having a protective effect against lupus and cancer, but these results are not definitive, and some debate still exists.

As one ages, bouncing back from disease or injury can be a longer process. Cells do not regenerate as quickly. In addition, aging makes people more susceptible to disease because immune systems naturally decline over time. For example, many elderly people in nursing homes are at significantly increased risk for complications, including death, due to the common influenza virus. An excess of protein not only can take a toll on the body in digestion and metabolism, but the nitrogen wastes from these processes can be more harmful to the body because they can irritate the immune system, which defends the body against infectious agents.

# Quality of Life

*One of the effects of increasing life expectancy is accumulation of nonfatal, chronic disease. This “burden of illness” often leads to disability and poorer perceived health status. This paradox has shifted the focus to quality, not quantity, of life. If “adding life to years rather than years to life” should be our new focus, how do we measure this quality of life?*

- David R. Thomas

A number of instruments have been developed to measure the effect a drug or program has on health related quality of life (QOL). Health perception and QOL for nutrition have not followed the traditional measurement pathways. Long-term intervention studies assessing the impact of select foods or supplements are difficult and cost prohibitive. A proxy for measuring the effects of nutritional supplements has been the biomarker. Biomarkers are intended to be targeted endpoints that determine the effect of a particular nutritional intervention. For example, biomarkers can measure the release of molecules that affect body tissue, point to particular biological responses like changes in blood pressure, or highlight any effect that a genetic or environmental factor has had on the individual. In this atmosphere in which proxies are used and the physiological effects of nutritional interventions are not readily quantified, the QOL effects of nutrition have been relegated to a lower priority status.

Investigators have assessed the effects that malnutrition has on *functional status* of an individual as a proxy for QOL. Some debate exists about this methodology – many say poor quality of life cannot be assumed because of reduced functional status due to blindness, for example, or other physical limitations.

Emotional health on a molecular level is used as an indicator of QOL. While acknowledging the imprecise and subjective measurement of emotion, the nutritional discussion is nevertheless taken to the molecular level, where opiate receptors in the brain control emotional response.

Proper nutrition can benefit not only one's physical state but emotional states as well. A healthy diet can provide the balance for one's overall wellness. The healthcare industry has recently turned its attention to outcomes research more and more as a way of measuring the “success” for any number of health-related interventions, including drugs, exercise programs, and educational programs. Because the benefits of proper, adequate nutrition have been intensely studied and well-documented for an individual's health, the next natural step in this new era of outcomes research is to investigate the effects proper nutrition has on QOL over time. □



# UPDATE

## Colon Cancer

**Colon cancer is the second leading cause of cancer deaths overall for men and women. However, colon cancer is preventable through regular testing, and an individual's risk can be greatly reduced by making healthy choices.**

There are approximately 140,000 new cases of colorectal cancer annually in the United States with approximately 60,000 people who die from the cancer or its complications every year. Over a lifetime, women have a 5% risk of developing colorectal cancer and men carry a 6% risk. This risk is substantially increased if an individual has a family history of colorectal cancer.

Women often overlook the importance of colon cancer screening. At age 50, men are directed to begin the screening at regular intervals and women are not. Below-the-waist care for women is delegated to a gynecologist. Women are far less likely to be referred for colon exams, yet women are far more prone to colon cancer than to any malignancy of the pelvic reproductive tract. Physicians and oncologists now say that colon cancer screening is more important than Pap smears and ranks close in importance to a mammogram for women over 50.

Colon cancer usually starts as a small polyp growing in the inside of the colon. Not all polyps turn into cancer, but removing these polyps early prevents them from turning cancerous. The progression of the cancer begins with a normal colonic mucosa (a normal colon lining), advances to an adenomatous polyp (a precancerous growth), and leads to colon cancer. This can take years to occur. Small polyps are clinically silent; patients do not display any symptoms. Large polyps can sometimes lead to microscopic bleeding in the colon and result in anemia. However, polyps usually take between 5 to 15 years to become cancerous, leaving a large window of opportunity to screen for colorectal polyps and remove them.

### *Symptoms of Colon Cancer*

Colon cancer often develops and progresses without symptoms, and screening is highly recommended for people over 50 even without the following symptoms:

*A persistent change in bowel habits*

*Blood in the stool or bleeding from the rectum*

*Abdominal pain*

*Unexplained weight loss*

*Tiredness or anemia*

Usually these symptoms occur in combination if a person has colon cancer. The most ideal choice for an individual's well-being is to screen early and not wait for symptoms to develop.

### *Risk Factors*

Everyone's risk for colon cancer is different and can be assessed by a physician. Some of the factors that can put people at risk for colon cancer are:

**Age:** Most cases occur in people over age 50. Thus, the screening process often begins at age 50.

**History:** Personal history of polyps, colorectal cancer (cancer of the colon and rectum), or inflammatory bowel disease.

**Genetic history:** Any family member, especially members of the immediate family, with a history of polyps or colorectal cancer will put an individual at greater risk.

**Poor diet:** Diets high in fat, calories, meat, and alcohol and low in whole grains, fruits, vegetables, calcium, and folate will contribute to the risk of colon cancer.

**Smoking**

**Sedentary lifestyle**

There are several options for screening an average risk person (no family history of colorectal cancer or personal history of polyps and inflammatory bowel disease). These should be started at age 50.

**Fecal Occult Blood Test:** This screening procedure tests for blood in stool. Fecal Occult Blood Tests are often done in conjunction with flexible sigmoidoscopy every five years.

**Flexible Sigmoidoscopy:** A flexible sigmoidoscopy is a procedure in which a physician examines the inside of the rectum and the first third of the colon (to the first large bend in the colon) for polyps, cancer, obstructions, or any other abnormality. To perform a sigmoidoscopy, the doctor uses a sigmoidoscope inserted into the colon through the anus and rectum.

**Colonoscopy:** In this procedure, the physician inserts a lighted tube attached to a video camera into the colon through the anus. The advantage of this procedure over sigmoidoscopy is that it allows the doctor to see the entire length of the colon.

**Barium Enema:** A barium enema, also called a lower gastrointestinal series, is an x-ray test in which barium is placed into the rectum and colon through the anus to enhance x-ray pictures of the large bowel (colon).

#### Advances in Technology

Recently, the FDA approved the Pill which houses a camera. This prescription capsule is ingested by patients and snaps pictures as it travels through the digestive tract, offering an alternative to the current uncomfortable diagnostic procedures including sigmoidoscopies and colonoscopies. The main advantage is that it traverses the entire length of the small intestine. However, because of the limited battery life, a colonoscopy must be performed in conjunction with the ingestible camera pill to screen the large intestine for polyp formation. □

specialists.

This system is created to eliminate any extraneous or medically unnecessary costs. HMOs pay doctors and other providers an annual salary or a fixed amount of money (capitation) for each member to provide all the care necessary for that member. This encourages doctors to reduce the number of tests they order and the number of patients they send to medical specialists, or send to the hospital.

Some HMOs employ doctors who work in a limited number of plan clinics. Other HMOs use doctors who see HMO patients in their own offices. These two systems are called closed and open panel HMOs respectively.

Closed panel HMOs include two models: Staff Models and Group Practice Models. Staff Models are ones where physicians provide care exclusively for the health plan. Often a broad array of services is found in one location in staff models. An example of this is Kaiser Permanente. In this system, when patients use medical services, they pay a small co-payment, usually between \$5 and \$15 for each visit. The Group Practice Model is a physician group, usually one with a large number of primary care and specialist physicians, that contract with an HMO to provide services for a fixed advance payment.

Open panel HMOs are ones that use Individual Practice Associations or IPAs. In this sort of model, physicians in private practice contract with an HMO to provide medical services for a set fee, paid in advance. The same physicians typically provide care for members of a variety of health plans.

HMO plans offer the patient the fewest choices concerning healthcare decisions; however it is the least expensive type of plan. Patients who choose HMO plans should remember that all services must be preauthorized before receipt, patients can only use network doctors and services, and if admitted to a hospital out of network, the patient will be re-patriated (sent to their network hospital).

#### Preferred Provider Organizations (PPOs)

A PPO is another option when choosing a healthcare benefit type. PPOs offer patients more of a selection when choosing doctors. PPOs have a pre-selected group of physicians, hospitals and specialty healthcare providers that are in their "network." PPOs allow the patient to choose any doctor in-network to seek medical services. When seeing specialists, patients in this type of plan do not need to get permission from a primary care physician. PPOs pay more of the cost of patient's care and usually require only a small fee when seeing a doctor. Patients are able to see doctors that are out of network, however, the plan will pay less of the patient's cost.

Doctors who have been contracted through a PPO plan get paid in one of two ways. Physicians may receive a fixed amount of money for each member in the plan; this is called capitation. No matter how many services are provided to one patient, the contracted doctor receives an annual fixed amount for the patient. Doctors may also be paid on a fee-for-service basis. In this case, the insurance

See *Managed*, page 14

*the latest in*

# Cosmetic and Medical Dermatology



Beginning in our twenties, the effects of aging become apparent in our skin. As skin becomes less elastic, it also becomes drier. Underlying fat padding begins to disappear. With loss of support by the underlying fat padding and connective tissue, the skin begins to sag. The skin begins to look less supple and wrinkles form. The effects of chronic and excessive sun exposure and cigarette smoking also contribute to aging effects. Aging and years of exposure to the elements lead to unwanted skin conditions.



## Unwanted Skin Conditions (I): Aging

**Age and liver spots:** Flat brown areas usually found around the face, hands, back and feet. Spots such as these are related to UV exposure. (They have nothing to do with the liver.)

**Actinic Keratosis:** Growths on the skin that appear thick, warty, rough or reddish. These growths are usually on sun-exposed areas of the skin and may be precursors to squamous cell carcinoma.

**Seborrheic Keratosis:** These are brown or black raised spots, or wart-like growths that appear to be stuck to the skin's surface. They are not cancerous.



## Ways to Combat Skin Conditions Due to Aging: Dermatologic Medical Skin Rejuvenation

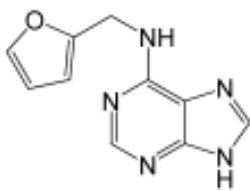
### *Topical Treatments*

As a response to these skin conditions, many dermatologic therapies have been created to improve the outward appearance of the skin. Topical ointments are the easiest products for a patient to obtain and are often easy to use.

**Vitamin A/Retinol:** Vitamin A plays a role in maintaining and promoting skin health. Retinol works on the surface of the skin to renew and restore skin's appearance. It reduces fine wrinkles, splotchy pigmentation and rough skin. As the strength of retinol increases, so does its potential to irritate the skin.

**Renova®:** A vitamin A derivative in an emollient cream available by prescription. It is medically proven to reduce fine facial wrinkles, fade brown spots and smooth surface roughness. Renova claims to work at the cellular level and increases collagen to reduce the signs of aging. Some side effects include some redness, itching or flaking.

**Alpha-Hydroxy Acids:** These are naturally occurring complexes derived from food sources such as fruit, milk and sugar cane. They are effective at removing the top layer of dead skin cells which moisturize skin.



**Kinetin:** This is a growth factor that promotes cell division and ensures orderly growth and development of plants. These substances in plants prevent the aging in leaves. Kinetin is capable of delaying or preventing many age-related changes of human skin fibroblasts grown in laboratory culture. Fibroblasts are cells which produce collagen and elastin, two proteins tied to the development of wrinkles and sagging skin.

*Surgical Treatments*

**Microdermabrasion:** This is a mechanical resurfacing procedure that removes the outer layers of skin to expose smooth, new skin below. Dermabrasion uses a small, rapidly spinning wheel with a roughened surface similar to sandpaper to abrade the skin. Laser therapy has the same effects but through laser vaporization of the skin.

**Fillers:** Substances that are compatible with the patient's body tissues are injected under the skin to elevate irregularities such as wrinkles, pits and scars. Substances that are used most often are collagen and self-donated body fat.

**Botox:** Botulinum toxin is a toxin produced by bacteria. It causes muscle paralysis and prevents sweating. Dermatologists use it in small doses to inject into specific muscles of the face to reduce wrinkling. The treated muscles weaken after injection preventing them from contracting, thus preventing the appearance of wrinkles. These injections are used primarily in frown muscles of the forehead and in the areas around the eyes that show crow's feet. Botox treatments last for a few weeks and require additional injections after three to six months. After three or four treatments, patients notice that the muscles have permanently weakened so it is not necessary to continue with treatment. A major side effect associated with botulinum toxin injections is the rare complication called ptosis. This is the drooping of the eyelid caused by the toxin tracking into the eyelid muscle.

**Unwanted Skin Conditions (II): Disease**

**Skin Cancers (Melanoma)**

In addition to skin conditions related to aging, years of exposure to UVA/UVB rays can lead to very serious cancers. Malignant melanomas (skin cancer) arise from uncontrolled growth of pigment-producing tanning cells. Melanomas may suddenly appear without warning, but can develop from or near a mole. Excessive exposure to UV radiation of the sun is the cause of melanoma that is most preventable. People in southern regions, where sunlight is more intense, are more likely to develop melanoma than those in northern regions. It is reported that half of all new cancers are skin cancers and greater than one million new cases will be diagnosed in the US this year. Older Caucasian males have the highest mortality rates for melanoma. Other possible factors include genetic factors and immune system deficiencies. Malignant melanomas are also linked to past sunburns and sun exposure at younger ages.

**Risk factors**

*Excessive sun exposure in the first 10-15 years of life increases chances of developing melanoma threefold.*

*Redheads and blondes have a twofold to fourfold increased risk of developing melanoma.*

*Caucasians with fair skin have twice as great a risk than Caucasians with olive skin.*

*Risk is increased if your patients, children or siblings have had melanoma.*

*Risk is increased if you have many moles, large moles or atypical moles*

So how do you know if you have melanoma? There are many different guidelines to follow when checking your skin for melanoma. Unusual moles can be a sign of a developing skin cancer. Unusual moles are ones that are generally larger than normal moles, variable in color, often have irregular borders and may occur in far greater numbers than regular moles. Malignant Melanomas begin as mottled, light brown to black flat blemishes of the skin, with irregular borders. Usually they are at least one-quarter inch in size and may turn shades of red, blue or white. They may crust on the surface and bleed as well.

When detected early, in most cases, surgical removal of thin melanomas can cure the disease. Early detection is essential as there is a direct

*See Dermatology, page 14.*

# An Introduction to Dementia and Alzheimer's Disease

Dementia is the loss of one's cognitive or intellectual function. Memory is one of the most essential cognitive functions, and it is often the first and most crucial one that dementia impairs. Dementia also affects problem-solving ability, decision making, judgment, our ability to orient ourselves in space, and our ability to put together simple sentences and understand and communicate with words.

Dementia develops when the parts of the brain that are involved with learning, memory, decision making and language are affected by any of various neurological, vascular, infectious, or metabolic diseases. The most common cause by far is Alzheimer's disease, but there are as many as 50 other known causes of dementia. Most of these are very rare, but some, although not as common as Alzheimer's, are indeed common. Some of the disorders that cause dementia may be reversible, although unfortunately most types of dementia do not respond to treatment. It is therefore very important to evaluate dementia symptoms in a comprehensive manner, so as not to miss potentially treatable conditions. The frequency of "treatable" causes of dementia is believed to be about 20%.

The most common causes of dementia include degenerative neurological diseases such as Alzheimer's, Parkinson's and Huntington's; vascular disorders as when multiple strokes in the brain lead to what is called multiple-infarct dementia; infections that affect the central nervous system, for example, dementia complex caused by the HIV virus and Creutzfeldt-Jakob disease (CJD); chronic drug use; depression; and certain types of hydrocephalus, an accumulation of cerebrospinal fluid in the ventricles of the brain that can result from developmental abnormalities, infections, injury, or brain tumors.

## Incidence

Although dementia has always been common, it has become even more common among the elderly in recent history. It is not clear if this increased frequency of dementia cases simply reflects a greater awareness of the symptoms or if people live longer and thus, are more likely to develop dementia in their older age. Dementia caused by neurological degenerative disease, especially Alzheimer's disease, is increasing in frequency more than most other types of dementia. Some researchers suspect that as many as half of all people over 80 years old develop Alzheimer's. Also, the increased incidence of AIDS dementia complex, which results from HIV infection, accounts for the increased dementia in recent history.

Dementia is considered a late-life disease because it tends to develop mostly in elderly people. About 5% to 8% of all people over the age of 65 have some form of dementia, and this number doubles every 5 years above that age. It is estimated that as many as 20% to 50% of people in their 80s suffer from dementia.

Alzheimer's disease causes 50% to 70% of all dementia. Although researchers are finding that some of what was previously considered Alzheimer's is really one of two other degenerative diseases: diffuse cortical Lewy body disease and Pick's disease. The second most common cause of dementia after Alzheimer's is vascular dementia. About 20% to 30% of all dementia is believed to be caused by some sort of vascular dysfunction, the most common of which is multi-infarct disease.

## Causes

There are 50 different causes of dementia, including neurological disorders such as Alzheimer's

disease, vascular disorders such as multi-infarct disease, inherited disorders such as Huntington's disease, and infections such as HIV.

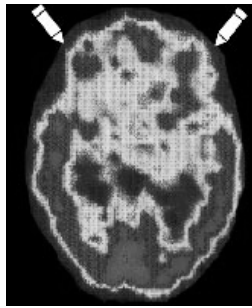
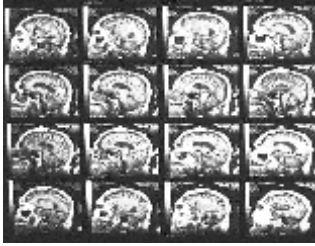
The most common cause of dementia is Alzheimer's disease. It is estimated that as many as 50% to 70% of all people who suffer from dementia have Alzheimer's. However, some researchers suspect that this may be an overestimate due to the tendency for people to assume too quickly that if an elderly person is showing signs of dementia then they must have Alzheimer's. Diagnostic tests, ranging from neuropsychological exams to brain imaging studies, are essential for identifying the cause of dementia. Some forms of dementia are treatable, or partially treatable. A proper diagnosis allows for a more accurate prognosis.

## Diagnosis

If a person is suspected of having dementia, the first part of the diagnosis is figuring out if there is any indication of an underlying disease. In other words, is it really dementia? It is not uncommon for elderly people to fear that their memory and other mental abilities are disappearing as they grow older, even if there is absolutely no evidence to suggest that this is indeed happening. This is especially true for people who are anxious or depressed. It is important to eliminate the possibility that the dementia-like symptoms are not the result of disorders that resemble dementia, for example, pseudodementia.

## The Importance of Differential Diagnosis

A differential diagnosis is the comparison of symptoms of two or more similar diseases. It is very important not to assume that just because a person is showing signs of memory loss, they have Alzheimer's



disease. Alzheimer's and dementia are not the same thing. Alzheimer's is only one of 50 different causes of dementia, although admittedly by far the most common. The progression and care of a patient are different for different dementias.

As an example of how dementias caused by different factors differ and how a proper diagnosis can tease the various causes apart, let's compare Alzheimer's with CJD. Alzheimer's develops very slowly over the course of several or more years, whereas CJD develops very rapidly and leads to 90% mortality within a year. Alzheimer's does not affect a person's motor functions and ability to move their muscles, whereas CJD causes prominent myoclonus (muscle spasm and twitching). Alzheimer's and CJD show different electroencephalography (EEG) results. And finally, although both Alzheimer's and CJD lead to amyloid deposits in the brain, the deposits are different in the two diseases. Amyloid is a protein essential for normal brain functioning, but when it accumulates abnormally it is believed to have a causal role in the development of certain types of dementia.

### Medical History

The first and perhaps most important step in diagnosing dementia involves questioning both the patient and people who know the patient to find out when the symptoms began and how they've changed or increased over time. The physician will need to gather as much information as possible about a variety of factors, including risk factors for possible infections, any family history of dementia or neurological disease, alcohol and other drug use, and a patient's history of strokes.

### Neuropsychological Exam

A neurological exam involves evaluating a person's cognitive ability, including their ability to orient themselves in time and space, their memory, language skills, reasoning ability, attention, social appropriateness, etc. The tests are simple and brief. They involve asking a person to repeat sentences, name objects, etc. The way a person answers the questions can provide clues about whether they do in fact have dementia and, if so, what is causing it. A person with Alzheimer's disease, for example, is usually fairly cooperative, attentive and appropriate, but they may have poor memory, whereas someone with hydrocephalus is likely to be distracted and less cooperative.

### Brain Imaging and Laboratory Tests

A CT or MRI may be done to eliminate various possibilities or confirm a diagnosis. Cerebrospinal fluid may be sampled by doing a spinal tap or lumbar puncture for the same reason. Blood tests are a standard part of any diagnosis, but are especially helpful for diagnosing neurosyphilis. Metabolic tests are essential for uncovering treatable disorders such as a vitamin B12 deficiency. An EEG is especially helpful for diagnosing Creutzfeldt-Jakob disease, as it shows a very unique pattern.

### Brain Biopsy

Very rarely is it necessary to perform a brain biopsy, which involves surgically removing a sample of brain tissue for microscopic evaluation.

## Alzheimer's Disease

Alzheimer's disease is an irreversible, progressive disorder in which neurons deteriorate, resulting in the loss of cognitive functions, primarily memory, judgment and reasoning, movement coordination, and pattern recognition. In advanced stages of the disease, all memory and mental functioning may be lost. The condition predominantly affects the cerebral cortex and hippocampus, which atrophy as the disease advances.

### Plaques and Tangles

The two most significant physical findings in the cells of brains affected by Alzheimer's disease are neuritic plaques and neurofibrillary tangles. Another significant factor in Alzheimer's disease is the greatly reduced presence of acetylcholine, a neurotransmitter essential for processing memory and learning, in the cerebral cortex. Acetylcholine is necessary for cognitive function.

While some neuritic plaques are commonly found in brains of elderly people, they appear in excessive numbers in the cerebral cortex of Alzheimer's disease patients. A protein called beta amyloid occupies the center of these plaques. Surrounding the protein are fragments of deteriorating neurons, especially those that produce acetylcholine.

Neurofibrillary tangles are twisted remnants of a protein called tau, which is found inside brain cells and is essential for maintaining proper cell structure and function. An abnormality in the tau protein disrupts normal cell activity.

### Incidence and Prevalence

About 2 million people in the United States suffer from Alzheimer's disease. Approximately 10% of all people over the age of 65 and as many as 50% of those over the age of 85 are diagnosed with the condition.

See *Alzheimer's*, page 15

Managed, from page 9

company negotiates a discounted cost for services provided to members.

PPOs provide many choices for the patient at a cost that is relatively average compared to other plans.

### Indemnity Plans

Indemnity plans are a type of fee-for-service plan. This type of plan offers the patient the most choices, but is also the most expensive. Indemnity plans are very similar to PPOs. Under this plan, the patient can use any medical provider they want. The patient or the physician sends the bill to the insurance company which will pay part of the bill. Usually, the patient has a deductible to pay each year before the insurer starts paying. Once the deductible is met, most indemnity plans pay a percentage of what they consider "usual and customary" charge for covered services. If the provider charges more than the usual and customary rates, the patient pays the coinsurance and the difference.

### Point of Service Plans (POS)

HMOs or PPOs often offer an indemnity-type option that is known as a POS plan. The primary care doctors in a POS plan usually make referrals to other providers in the plan. However, members can refer themselves outside the plan and still get some coverage. Once again, if the patient chooses a doctor that is in-network, the out-of-pocket expenses are lower. If the physician is out of network, the insurance company will cover some; however deductibles or coinsurance may be higher.

As presented here, there are many options for an individual to choose from when deciding on a healthcare plan. Patients are encouraged to research their healthcare options to determine which sort of plan is best for their medical and financial needs.

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Dermatology, from page 11

correlation between thickness of the melanoma and survival rate.

What can you do to reduce your

chances of getting skin cancer?

- (1) Avoid peak sunlight hours (10am-4pm) where the sun's rays are the most intense.
- (2) Wear protective clothing, including a hat with a wide brim and long-sleeved shirt and pants during prolonged periods of sun exposure.
- (3) Apply a broad spectrum sun screen with SPF of at least 15. You should reapply every 15 minutes, especially if participating in outside activities.

### Other Skin Conditions

There are various other skin conditions not necessarily related to aging or sun exposure. Adult onset of these conditions can be emotionally debilitating and place a damper on the patient's quality of life.

*Shingles:* a condition caused by a virus (herpes zoster) that also causes chicken pox. It is thought that the virus lies dormant in nerve tissue until it is reactivated to cause shingles. After a few days of localized pain, the skin erupts with red and fluid-filled lesions along the route of the affected nerve. As the condition progresses, new lesions continue to form and pain continues to be severe.

Treatment with anti-viral drugs is most effective in the early phase of shingles.

*Psoriasis:* a chronic, genetic, noncontagious skin disorder that appears in many different forms and can affect any part of the body. It is most commonly found on the scalp, elbows, knees, hands, feet and genitals. Plaque psoriasis is the most common type of the disease that is characterized by raised, thickened patches of red skin covered with silvery-white scales. Patients often report an itching or burning sensation as the disease progresses. Plaque psoriasis begins with small red bumps on the skin that progress to bigger, scaly patches that may become itchy and uncomfortable.

Treatments for psoriasis can be divided into three basic categories: sunlight and topical agents; photo-

therapy (artificial ultraviolet light, or a combination of ultraviolet light and medications); and systemic (internal) medications taken by pill or injection. Topical steroids are generally effective at treating the inflammation that occurs with psoriasis, however side effects are great.

*Seborrheic Dermatitis:* This is a skin condition closely related to psoriasis. Seborrheic dermatitis is classified by lesions on the face and ears that appear as light red to pink patches with scales. Occurrence is thought to be associated with a reaction to the overgrowth of yeast on the surface of the skin in genetically susceptible individuals.

Treatment is directed toward decreasing yeast on the scalp and affected areas, loosening and removing the thick scales, preventing secondary bacterial infections, and reducing inflammation. There is no cure for seborrhea dermatitis; however routine treatments can control the disease.

*Eczema/Atopic Dermatitis:* Atopic dermatitis is the most common form of eczema. It is characterized by dry, red, extremely itchy patches on the skin. Its cause is unknown, but the condition appears to be an abnormal response of the body's immune system. The inflammatory response of the body to irritation substances is overactive, causing itching and scratching. Chronic scratching causes the skin to take on a leathery texture because the skin has thickened.

The most common treatments are lotions or creams that keep the skin moisturized. Cold compresses applied directly to itchy skin can also help relieve itching. When these treatments don't work, the patient is prescribed corticosteroid creams and ointments that reduce inflammation. Steroids have multiple side effects including thinning of the skin. Since skin affected by eczema can become easily infected, oral antibiotics are prescribed as well to kill bacteria causing the infection.

Non-conventional therapies include tar treatments which may soothe the skin, or phototherapy which slows the abnormal growth of skin cells. Recently, a new class of drugs

has been approved for treatment of eczema. There are topical immunomodulators; topical drugs that modulate the immune response. These drugs alter the reactivity of cell-surface immunologic responsiveness to calm the overactive immune system of the skin, thus reducing eczema symptoms. This new class of drugs is also being tested in patients with diseases similar to eczema; seborrheic dermatitis and psoriasis. □

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*Alzheimer's, from page 13*

### Risk Factors

The risk for Alzheimer's disease increases with each decade of adult life. People with a family history of Alzheimer's have a greater risk, implying that a genetic factor is involved. A clear inherited pattern of Alzheimer's disease exists in less than 10% of cases. Some involve a mutation of the gene for the protein APP, found on chromosome 21. Nearly all people with Down's syndrome (trisomy 21) who live into their 40s develop the disease. Others involve a defect on chromosome 14. The gene for the protein Apo E, found on chromosome 19, is a risk factor that may be involved in modifying the age of onset.

Untreated chronic hypertension (high blood pressure) has been identified as a risk factor for loss of mental function in older people. Treatment reduces the risk. Adults who have had head injuries are three times more likely to develop Alzheimer's disease.

It is thought that gender plays a role because several studies suggest that women are afflicted with Alzheimer's disease more often than men. However, the evidence is inconsistent and some studies report that the disease is more prevalent in men. Therefore, more research is needed to obtain conclusive evidence regarding prevalence in gender.

### Causes

Genetic factors are known to play a role in some cases of Alzheimer's.

The APP gene found on chromosome 21 is implicated in the occurrence of Alzheimer's disease in Down's syndrome patients who survive beyond 40 years. Some families with a history of early-onset Alzheimer's disease have a mutation on the APP gene and others have a mutation in the presenilin-1 gene (PS-1) found on chromosome 14. Another gene, the Apo E gene on chromosome 19, also has been implicated in the disease. Apo E is a protein found with beta amyloid in neuritic plaques.

### Symptoms

Early symptoms, such as memory loss, may be attributed to the forgetfulness associated with ageing. Gradually, the loss of cognitive function disrupts the patient's ability to perform common daily activities, such as paying bills, driving, and house-keeping. Some people remain unaware of their symptoms, while others are painfully aware of the fact that they are losing mental function.

Symptoms of Alzheimer's disease include the following:

#### **Aphasia**

*(e.g., loss of ability in comprehension of spoken or written language)*

#### **Apraxia**

*(e.g., inability to perform physical tasks such as dressing, eating)*

#### **Delusions**

**Easily lost and confused**

**Inability to learn new tasks**

**Loss of judgment, reason**

**Loss of inhibitions, belligerence**

**Social withdrawal**

**Visual hallucinations**

In end-stage Alzheimer's disease, patients may become bedridden and need help with eating and getting out of bed to use the bathroom. Patients also may experience convulsions and seizures and may become incontinent.

Depression is common in patients with Alzheimer's disease, especially during the earlier stages when they may be aware of losing mental functions. □

### Online Resources:

American Diabetes Association  
[www.diabetes.org](http://www.diabetes.org)

American Heart Association  
[www.americanheart.org](http://www.americanheart.org)

Alzheimer's Association  
[www.alz.org/](http://www.alz.org/)

Alzheimer's Society - Dementia care and research  
[www.alzheimers.org.uk/](http://www.alzheimers.org.uk/)

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