

**Diet Wars:
America's Battle of the Bulge & Its Implications for Dental Professionals
Presented by: Betsy Reynolds, RDH, MS**

Agenda

- Introduction and Tidbits
- Meet the Fat Cell
- Obesity Through the Ages
- Specific Diets
- Battle Plan Strategies
- The BEST Diet Revealed

Headliners: Obesity Rates Growing: Poll; Kevin Conner: reporting for the Toronto Sun; 3/31/10

The Heart and Stroke Foundation recently polled 2000 citizens and found that in the past 30 years, obesity rates in Canada have doubled and, in some age groups, even tripled 'Obesity and overweight have become one of the leading public health concerns in Canada. We know that within the past 30 years, the prevalence of obesity doubled among those ages 40 to 69 and tripled among those 20 to 39.'--Dr. Marco Di Buono; research director for the Heart and Stroke Foundation of Ontario

Canadians, aged 20 to 39, are a new at-risk group—half of the overweight people in that age group reported they spend money on gym memberships and diet programs to try to lose weight

Across the board, four out of every 10 overweight Canadians spend money trying to slim down Many Canadians have resorted to quick fix methods—diets that restrict certain foods or meal replacement bars and diet shakes—to shed the pounds

Only about one-quarter of overweight people sought counseling from a doctor or dietitian

The Heart and Stroke Foundation has introduced the Heart&Stroke Healthy Weight Action Plan—a free, personalized, 12-session online resource—to help Canadians achieve and maintain a healthy weight

Available at: www.heartandstroke.ca/hwplan

Headliners: Canadian Obesity Rates Climbing: OECD Report; CBC News, 9/23/10

In its inaugural obesity study, the Organization for Economic Cooperation and Development detailed the economic and financial toll of rising obesity rates

The OECD report found that Canada has a relatively high number of overweight citizens—one in four Canadians currently qualifies as obese with that number expected to climb a further 5% over the next decade

The report says the problem is more prevalent among men—roughly 2 out of 3 (58.5%) of males are overweight compared to 43.5% of women

Canadian obesity rates are well below those of the United States—identified by the OECD as the fattest nation among its member countries

South of the border, 70% of residents are classified as overweight—and the number of obese Americans is projected to rise to 75% by 2020

According to the CBS Sunday Morning broadcast aired on 10/25/09:

- America is 4.6 BILLION pounds overweight
- The healthcare system spends \$147 BILLION annually on obesity related conditions—the TOTAL cost to treat ALL cancers is < \$100 billion
- Obesity is the second leading preventable cause of death—just after smoking
- We spend \$500 BILLION each year on food in the United States—we spend \$59 BILLION on diet aids

Meet the Fat Cell

The average person has 40 billion adipose ('fat') cells

When calorie intake exceeds expenditures, fat cells swell (to as much as SIX TIMES their original size) and they begin to multiply (from 40 billion to 100+ BILLION)

Losing weight causes them to shrink in size and become less metabolically active but their number goes down only slowly—if at all

Adipose tissue requires a copious supply of blood in tiny capillaries

Lean muscle mass is supplied by larger vessels

The microvasculature required to fuel adipose tissue puts a strain on the cardiovascular system

Headliners: 'Molecule Cuts Off Fat's Food Supply'; James Kingsland; NewScientist.com; 5/10/04

A magic bullet that destroys the blood vessels that feed fat tissue could be just what obese people all over the world have been praying for!

KEY CONCEPTS

- Researchers have found that blood vessels are not all the same—they are different based on the organ or tissue they are supporting
- In fact, unique molecules can be located that define each different kind of blood vessel
- Drug therapies can then be targeted to address the microvasculature associated with tumor cells—or, in this case, adipose cells

White adipose tissue ('WAT') is unique because it can expand rapidly—and to do that, WAT requires VERY active production of blood vessels to deliver oxygen

In fact, according to a Harvard researcher, one pound of fat contains a mile of blood vessels—much more than are needed to support other body tissues

Researchers at the University of Texas (Houston) located a receptor that appears to be over-expressed on blood vessels servicing white fat

They identified the receptor as PROHIBITIN—a protein known to regulate cell survival and growth

Once the researchers identified the 'docking station', they got busy designing a drug that would fit neatly into the prohibitin receptor

They then attached the synthetic ligand drug to a corkscrew-shaped drug that induces apoptosis—'cellular suicide'

Existing obesity drugs either target the brain (to alter appetite or energy balance pathways) or the GI system (to reduce the absorption of fat)

Even the most effective drugs can only reduce weight by up to 5%!!!

But in the case of Prohibitin, animals that had gained weight on a high fat 'cafeteria' diet returned to their normal body weights within weeks of receiving the Prohibitin drug combo

In fact, the mice demonstrated a 30% body weight loss in 4 weeks WITHOUT toxic side effects

'When you inject our drug into mice, it hones in on and promotes the death of blood vessels associated with WAT—which is then reabsorbed and metabolized'--Wadih Arap, MD, PhD; Professor; M.D.

Anderson

'If even a fraction of what we found in mice relates to human biology, then we are cautiously optimistic that there may be a new way to think about REVERSING obesity'--Renata Pasqualini, PhD; Professor; M.D. Anderson

M.D. Anderson

These preliminary studies suggest that removal of already formed fat by a non-surgical method is possible

Now back to the course...

Additionally, adipose tissue attracts **macrophages**—which heightens the inflammatory response

Scientists have found that in an obese person's fat tissue, macrophages constitute up to 40% of the cells!!!

Eric Smart, a UK professor of pediatrics and Barnstable-Brown Chair in Diabetes, has been studying what happens to macrophage function in the presence of obesity

Specifically, Smart and his group are looking at a special piece of the macrophage membrane called a 'lipid raft'—it actually floats within the membrane!

The lipid raft controls signals from outside and inside the membrane and directs the response of the macrophage

Preliminary data suggests that when excess weight is shed, the lipid raft complex is NOT the same as it was initially

This may play a critical role in identifying why it is so difficult to KEEP excess pounds off!

With further research, Smart and his colleagues hope to identify what proteins do not come back in the post-obesity phase in humans and target these proteins with drug therapies

Macrophages penetrate adipose tissue causing BOTH sets of cells to literally spew out damaging inflammatory compounds

In the blood, hormones and inflammatory compounds travel from the adipose cells to distant parts of the body which cause a variety of effects in tissues as diverse as the brain, the liver, the cardiovascular system and muscles

IL-6 and TNF- α are manufactured by both fat cells and macrophages

Together, they contribute to the chronic, low-grade inflammation that underlies heart disease, type 2 diabetes and certain types of cancer

Cardiovascular risk is increased even more by two compounds produced by fat cells:

- Plasminogen activator inhibitor-1 (blocks the body's clot-busters)
- Angiotensinogen (leads to high BP)

'If you have excess fat, even in small amounts, the body starts mounting an immune response almost as if the body perceives excess calories as an invading organism.'--Dr. Gokhan Hotamisligil; Harvard School of Public Health

Headliners: Infectious Obesity?; Magdalena Pasarica; Louisiana State University; Baton Rouge, LA; as reported by Vastag B. in ScienceNews; 8/25/07

Over twenty five years ago, researchers discovered that certain viruses can cause obesity in some animals; a decade ago, they extended their findings to humans

Now, a team of researchers reports that one such virus works by transforming adult stem cells into fat-storing cells—supporting the notion that some cases of obesity may be infectious

Adenovirus-36 apparently does more than just cause colds like its cousins—in the 2005 study involving 500+ obese and normal weight subjects, researchers found that 30% of the obese group showed signs of previous adenovirus-36 infection compared to 11% in the normal weight group

Pasarica's team grew stem cells in lab dishes and infected half the dishes with adenovirus-36—most of the infected cells transformed into adipocytes; the majority of the others did not

When grown on standard culture media, the adipocytes RAPIDLY accumulated fat

When exposed to a formula that usually transforms stem cells into bone, the infected cells became fat cells instead

'That is how we showed the virus is inducing this change at the stem cell level.'--Pasarica; presenting research at the American Chemical Society meeting; Boston, MA; 8/07

Now, back to the course...

One of the half-dozen or so chemical messengers produced by adipose cells is **leptin**

The more fat in a cell, the more leptin it produces—signaling the brain that it can reduce food intake

KEY: But in the obese, the brain becomes less responsive to higher leptin levels

People who do not produce leptin at all eat uncontrollably
When an extra dose of leptin is given to 'normal' mice, they lose weight
Leptin also speeds metabolism to burn calories faster
Conversely, when leptin levels drop, metabolism slows—another explanation for why keeping weight off is so difficult

Back to fat...

Cortisol is a stress hormone that is produced in the adrenal glands
Fat cells can convert the inactive form of cortisol to the active form
Among other things, cortisol encourages deposition of fat in the abdomen—known as 'deep apple fat'
Scientists have long known that people who deposit fat in the belly are more predisposed to heart disease, type 2 diabetes and breast and endometrial cancer than those who store fat in the hips and thighs

Headliners: Research Links Big Bellies to Dementia; As reported by Rob Stein; The Washington Post; appearing in the Idaho Statesman; 3/27/08

According to recent research, people who have excess abdominal weight in their 40's are much more likely to get Alzheimer's disease and other forms of dementia in their 70's

The study of 6000+ people found that those individuals with the most belly fat faced TWICE the risk of dementia when compared to their leaner counterparts

'A large belly independent of total weight is a potent predictor of dementia.'--Rachel Whitmer; research scientist; Kaiser Permanente Division of Research; Oakland, California;

Apple Shapes

- Visceral fat is HIGHLY active—releasing more inflammatory compounds on a near-constant basis

Pear Shapes

- Fat stored in the lower body is less active
- Women tend to reserve fat in thighs to fuel lactation

More Troubles with Fat

Obesity Hypoventilation Syndrome

OHS—also known as 'Pickwickian syndrome'—is a condition in which poor breathing (including sleep apnea) leads to lower oxygen levels and higher carbon dioxide levels in the blood (people with OHS are often tired due to sleep loss, poor sleep quality, and chronic hypoxia)

Liver Disease

Many obese people develop deposits of fat inside the liver—a process that can progress to cirrhosis in about 10% of cases and occasionally liver failure

Colon Cancer

Obese people are at greater risk of colon cancer—abdominal fat appears to increase risk more than fat elsewhere

Osteoarthritis

Being overweight places additional strain on the spine, hips, and knee joints—leading to a loss of cartilage and a narrowing of joint space resulting in bone-on-bone articulation

Gallbladder Disease

Being overweight causes over-production of cholesterol by the liver, which is then delivered into the bile causing supersaturation—'weight cycling' further increases supersaturation results in an increased risk for gallstones

Headliners: Low-Fat Diet May Cut Ovarian Cancer Risk; As reported by Luran Neergaard; Associated Press; The Boston Globe; 10/10/07

One of the most promising findings to come out of the WHI is that women who followed a low-fat diet for 8 years cut their chances of ovarian cancer by a whopping 40%!

Women who started with the worst diets and cut the most fat from their meals and snacks got the most benefit

Headliners: For Daily Use: Avocados, Olive Oils and Other Fats; Daniele Piomelli; UC Irvine pharmacologist; lead researcher; study results published in Cell Metabolism; 10/8/09; as reported in Science News; 11/8/09

Avocados, nuts and other foods rich in unsaturated fats can curb hunger pangs between meals

The oleic acid in these foodstuffs elicits production of a hunger-fighting compound in the small intestine called 'oleoylethanolamide'

Oleoylethanolamide (OEA) is an endogenous lipid mediator that is released when dietary fat enters the small intestine—it likely mediates fat-induced satiety

Obesity Through the Ages

Americans in every age group are getting plumper and plumper

Headliners: U.S. Babies Getting Fatter; As reposted by Steven Reinberg; HealthDay; 8/9/06

Researchers say infants are 59% more likely to be overweight today than they were two decades ago

In the study of 12,000+ children under the age of 6, researchers found that infants are now more likely to be overweight—in fact, overweight prevalence in infants climbed from 6.3% to 10% between the years 1980 and 2001

The number of overweight infants increased by a whopping 74%

Some Contributing Factors:

- Women who become pregnant weigh more than they ever have (maternal body mass index is a determinate of infant weight at birth AND after)
- Mothers are putting on more weight during pregnancy

An increase in both gestational and Type 2 diabetes among mothers also increases infant birth and post-birth weights

How babies are fed may play a role—infants that are breastfed tend to gain weight more slowly than formula-fed infants

Women need to maintain exclusive breast-feeding for at least 4-6 months as recommended by the American Academy of Pediatrics--Dr. Matthew Gillman; Associate Professor; Harvard Medical School Studies suggest that gaining excess weight during the first months of life is associated with becoming overweight and developing hypertension later in life

Other data suggests that infants who gain weight are more likely to suffer from wheezing—which can lead to asthma later

This news is disturbing but not surprising... Infants and adolescents are far more adept at generating new fat cells than adults. Obesity caused by a high number of fat cells is harder to reverse than obesity caused by enlarging pre-existing fat cells...Childhood obesity is a crisis throughout the U.S.'--Dr. David L. Katz; Associate Professor of Public Health and Director of the Prevention Research Center at Yale University School of Medicine

Headliners: Obesity Weighs Heavily on Extra Health Risks for Moms and Babies; Sharon Kirkey; reporting for Postmedia News; 7/21/10; accessed on 1/13/11 at: <http://www.canada.com/health/Obesity+weighs+heavily+extra+health+risks+moms+babies/3304081/story.html>

Canada's obesity crisis is hitting the delivery room—new research warns a large proportion of Canadian moms-to-be are dangerously overweight to the point of adding serious extra health risks for their babies. McMaster University researchers—who pooled data from 84 studies involving more than one million women—found overweight and obese expectant mothers are at significantly increased risk of delivering prematurely.

Obesity rates have been rising fastest for women aged 25 to 34—the group that delivers more than 60% of the babies born in Canada each year—nearly doubling in the past 25 years.

Across Canada, maternity wards are being fitted with stronger operating room tables, extra-wide wheelchairs and lift devices to cope with the increase in obese expectant moms.

“There are still patients who think they should eat for two. I always remind them, ‘You’re not eating for another full-sized adult, you’re eating for a healthy baby’ ... [W]omen need about 300 extra calories per day in the latter half of pregnancy.”--Dr. Sarah McDonald; associate professor of obstetrics and gynecology at McMaster; researcher.

Example of 300 extra calories: An eight-ounce glass of skim milk, one piece of plain toast and a banana.

The number of overweight children aged 6 to 11 DOUBLED between 1980 and 2000 and TRIPLED among adolescents aged 12 to 17.

Translation??? In 1980, 1 in 20 U.S. children and teens was overweight—today, that figure is closer to 1 in 6--Science News; 9/24/05.

Along with the rise in childhood obesity, there has been an increase in the incidence and prevalence of medical conditions in children and adolescents that had been rare in the past—type 2 diabetes, asthma, and hypertension.

More than 9 million youngsters are at risk of suffering an impaired quality of life—from the aforementioned systemic disorders as well as a negative self image—that will continue into adulthood.

There are many factors that contribute to causing child and adolescent obesity—some are modifiable and some are not.

Modifiable causes include:

- Physical activity (lack of regular exercise)
- Sedentary behavior (high frequency of TV viewing, computer use, etc.)
- Eating habits (over-consumption of high-calorie foods especially when not hungry, watching TV or doing homework)
- Environment (over-exposure to advertising high-calorie foods and lack of recreational facilities)

The Convenience Factor: Americans eat 25% of their meals in restaurants.

Headliners: Calorie Labels Not Always Accurate; Michael Hill; The Associated Press; appearing in the Idaho Statesman; 1/8/10

A study published in the January 2010 issue of the Journal of the American Dietetic Association looked at 10 chain restaurants and found that the number of calories in 29 meals or other menu items was an average of 18% HIGHER than advertised.

The researchers also found discrepancies in the freezer aisle: meals from Lean Cuisine, Weight Watchers, Healthy Choice and South Beach Living had 8% more calories than advertised on the products' label.

‘[I]f every time you eat out, you get a couple of hundred extra calories or more than you think, that can add up really easily. There’s a drumbeat for people putting calories on menus, but that’s only useful if the calories are right.’--Susan Roberts; lead researcher; professor of nutrition; Tufts University.

Non-Modifiable causes include:

- Genetics (greater risk of obesity has been found in children of obese and overweight parents)
- Low SES (nutrient-rich foods may be pricier and less readily available)
- Headliners
- Better Access to Healthy Food

--Appearing in the 11/8/09 issue of Parade

Recent studies have shown that for every 10% increase in poverty, obesity rises 6%

One reason is lack of access to healthy foods:

'Nutritious food is expensive. For people with limited incomes, it's out of their reach.' (Vicki Escarra; Feeding America [a network of 200 U.S. food banks])

With many Americans struggling to put healthy food on the table, anti-hunger organizations are finding innovative ways to meet demand

To help, Wal-Mart donated 35 refrigerated trucks that can transport food from local stores or farms to food banks

'We're the nation's largest grocer, and we have expertise in distribution and supply. There's a 100% increase in people going to a food bank for the first time. We need to reach out to the communities we serve and be helpful.'--Margaret McKenna; president; Wal-Mart Foundation

According to the 2/13-15/09 USA Today Weekend, it IS possible to eat well on a tight budget with many nutritionist-recommended foods costing just cents a serving

Among the Top Ten Picks:

- Canned pumpkin (loaded with vitamins A and C as well as fiber; anti-inflammatory properties)
- Beets (high in folate, potassium, fiber and vitamins A and C)
- Canned tuna or salmon (packed with protein and good source of omega-3)
- Sweet potatoes (good source of fiber and vitamins A and C)

Teaching healthy behaviors at a young age is important since change becomes more difficult with age
An important part of treating obesity among children and adolescents is for healthcare professionals to be sensitive to the youngsters and focus on the positive—small, achievable weight loss goals should be set to avoid discouragement and to allow for normal growth processes

One episode of mild to moderate malnutrition (including folate deficiency) was associated with increased incidence of caries in deciduous and permanent teeth later in life--U.S. Department of Health and Human Services, 2000

Researchers have also concluded that one episode of mild to moderate malnutrition in the 1st year of life is associated with BOTH increased incidence of caries and salivary atrophy leading to xerostomia--
Am J Clin Nutr; 1995

Some helpful strategies:**Dietary therapy:**

- Some eating behaviors include taking smaller bites, chewing longer and putting eating utensils down between bites

Physical activity:

- Moderate physical activity for children every day for at LEAST 60 minutes

Behavior therapy:

- 'Diet diaries' (include exercise)
- Identify high-risk situations (high-calorie snacks, watching TV during meals, etc.)
- Reward specific actions (avoid food as reward)
- Develop a support system (family, friends, healthcare providers)

More employers are looking at their roles in obesity—two thirds of the U.S. work force is working longer hours and is overweight

The economic crisis has exacerbated the obesity epidemic—workers are putting in longer hours in order to secure job positions

With less time to exercise, more than a THIRD of employees report that work drains them of energy and leaves them nothing for their personal lives

At the same time, pay cuts and rising food prices are making fast food and vending machines a quick and cheaper option during a lunch break

Employers realize workers' health and well-being affect the bottom line in lost productivity and higher insurance premiums—obesity is associated with a 36% increase in spending on health care services

Recognizing this, about 40% of U.S. companies have implemented obesity-reduction programs

Headliners: Pepsi, Coke Agree to Pull Non-Diet Sodas Out of Schools; Shawna Gamache; Idaho Statesman; 5/4/06

U.S. beverage giants representing nearly 9 of every 10 sodas sold agreed to stop selling pop in elementary and middle schools and to offer only reduced-calorie sodas in U.S. high schools starting in 2008-2009

Soft drink consumption rose more than 60% among adults and more than DOUBLED in children from 1977-1997—the prevalence of obesity roughly DOUBLED during that time as well

A study of 548 Massachusetts schoolchildren found that for EACH additional sweet drink consumed daily, the odds of obesity increased 60%--Ludwig et al

Researchers found that an extra can of soda a day can pile on 15 pounds in a single year

Headliners: Review Blames Obesity Trend on Soft Drinks; AP News Release as reported by Marilyn Marchione; 8/9/06

A single 12-ounce can of soda provides the equivalent of 10 teaspoons of table sugar

The sugar found in sodas is mainly high fructose corn syrup—the higher fructose levels fails to spur production of leptin (remember that substance that regulates appetite???)

Headliners: Forget the Fructose; Aimee Cunningham; reporting for Scientific American Mind; July/August 2009

Animal studies conducted at Georgia State University found that memory is negatively impacted by a high fructose diet

'[The mice] can learn but they just can't remember it for long periods.'--Marise B. Parent, PhD; neuroscientist and lead researcher

Another research group demonstrated that insulin resistance can affect the hippocampus—a part of the brain critical for learning and remembering facts and events

Headliners: Coca Cola Deal With Family Doctors Group Draws Criticism; Lindsey Tanner; reporting for The Associated Press; appearing in the Idaho Statesman; 11/5/09

The American Academy of Family Physicians has prompted outcry and lost members over its new 6-figure alliance with Coca Cola

The deal will fund educational materials about soft drinks for the academy's consumer health and wellness website: www.FamilyDocotr.org

'Coca Cola, like other sodas, causes enormous suffering and premature death by increasing the risks of obesity, diabetes, heart attacks, gout, and cavities.'--Dr. Willet; nutrition expert; Harvard University, via email

Dr. William Walker, public health officer for Contra Costa County near San Francisco, likened the alliance to ads decades ago in which physicians said mild cigarettes were safe

Some things to ponder:

Soft drinks contain carbonic acid, citric acid, and phosphoric acid—and often processed sugar to boot! Because the acids in soft drinks cause dissolution of enamel, they are responsible for about 40% of tooth surface loss in children

Citric acid is unusually damaging to children's teeth because of its destructive chelating effect on the enamel—which continues even when the oral pH rises!

The Big OOPS! Dental personnel often advise patients to brush their teeth immediately after consuming soft drinks or juices

This may actually INCREASE surface loss—especially in children!

Headliners: Sports Drinks: For kids, they're not a healthy alternative to soda; Julie Dieardorff; reporting for the Chicago Tribune; appearing in the Idaho Statesman; 9/21/09

In some 'healthy' school vending machines across the U.S., soda is out but rehydrating, sugar-laden sports drinks are still in

Sports beverages are little more than sugar water with electrolytes—something most children do not need--Lilian Cheung; registered dietician and lecturer; department of nutrition; Harvard School of Public Health

Children's health experts say sports drinks are not just contributing to the obesity epidemic but are also hard on the teeth—research has shown that they can do more damage to the enamel than carbonated beverages

Headliners: Cereal Flu Defense; As reported in The Province; 11/5/09

Cereal giant Kellogg's has been criticized for marketing Cocoa Krispies cereal with a banner that claims the following: 'Now helps support your child's IMMUNITY'

The popular cereal also boasts—right on its cover—yummy richness in a variety of important vitamins and antioxidants

When contacted, Kellogg's told USA Today the product was not meant to capitalize on the H1N1 hysteria

And now, let's look at how obesity affects the **elderly**

Older Americans have NOT escaped the obesity epidemic

The elderly are getting bigger—the latest statistics show that 70% of Americans between the ages of 55 and 74 are overweight or obese

That represents a doubling of the percentage in the last 30 years!!!

One in four people aged 50+ is considered obese—with a BMI of 30 or higher

The vascular problems posed by obesity and related syndromes like hypertension and type 2 diabetes are important influences in the risk of vascular and Alzheimer's dementia

Little research to date has been performed to determine guidelines for a healthy weight for the elderly population

This paucity must be taken into consideration when addressing the management of the elderly overweight or obese patient

There are hundreds—if not thousands—of 'diets' that have come into and fallen out of favor over time

Why the need for diets?????

In the past twenty years, society has created the 'perfect storm of porkiness'—engineering physical activity out of our lives while pushing lots of inexpensive high-caloric foods through clever marketing and school/workplace vending machines--Barry Franklin; director; Cardiac Rehabilitation and Exercise Laboratories; Beaumont Hospital; MI

Diet Headliners

In the article titled 'Why We're Gaining Weight and How to Stop It Now', Shape magazine asked the country's leading experts on obesity to outline the 8 most common reasons that we have become obese

#1: We're using our genes as an excuse

Genes do play a role in how the body uses calories and stores fat—yet a bigger culprit is BEHAVIOR (specifically the unhealthy lifestyle choices many of us make)

What to do about it:

- 'Refuse to let heredity keep you from adjusting your diet and exercise habits so you can slim down'

Headliners: Gene Test Claims to Show Most Effective Diets; Marilyn Marchione; reporting for The Associated Press; appearing in the Idaho Statesman; 3/5/10

Interleukin Genetics, Inc. has developed a genetic test that analyzes three genes which show a pattern for metabolizing fats and carbohydrates

Hiring researchers from Stanford, investigators tested four diets—Atkins (ultra-low carb), the Zone (low carb), Ornish (very low-fat) and a low-fat diet following the U.S. federal Food Pyramid—against the genetic makeup of study subjects

Researchers found that participants whose diet matched their genetic makeup lost more than 13 pounds over a year—compared to <3 pounds for subjects on mismatched diets

'The potential of using genetic information to achieve this magnitude of weight loss without pharmaceutical intervention would be important in helping to solve the pervasive problem of excessive weight in our society. We are eager to follow-up on this study and to determine the magnitude of health benefits that may result from following a diet that is matched to one's genotype.'--Christopher Gardner, Ph.D., Director of Nutrition Studies at the Stanford Prevention Research Center and an Associate Professor of Medicine at Stanford University. "

'We're pleased our research has been selected for presentation at this important scientific meeting. Results from this study are compelling and indicate strong potential for broad utility of a genetic test to guide diet and lifestyle choices.'--Interleukin Genetics Chief Scientific Officer Kenneth Kornman

#2: We're eating too often

Eating has become a 'recreational pastime'—it has lost its power to mark a special occasion, satisfy true hunger or serve a nutritional purpose

Today, we eat on the go—grabbing pre-packaged snack items when we're running errands that pack high levels of fat, salt and sugar without nutritional value or fiber (leaving us hungry shortly after indulging...)

What to do about it:

- Eat 3 meals plus 2 snacks daily
- Eat much less processed foods
- Keep healthy snacks on hand—junk food always seems to sound better when you're 'starving'...

#3: We're eating bigger portions

Since the 1970's, portion sizes for every packaged food except bread have increased—some by as much as 100%!

Eating bigger portions means consumption of more calories—400 extra calories per person per day since the 1980's!

An example...

The average pasta serving in the United States is 480% greater than the recommended one-cup serving size--New York Times; as reported in Quick & Simple; 8/22/06

What to do about it:

- Write down what you eat—most people underestimate calorie intake by as much as 20%-50%

- Have smaller meals—eating in and using measuring devices is best
- Be restaurant-savvy —make special requests (sauces/dressings on the side) and using doggie bags
- Keep treats tiny —a Hershey chocolate verses a Hershey bar

#4: We're eating way too much sugar

Over the last 40 years, high fructose corn syrup ('HFCS') has increased in prevalence to make up 40+% of the caloric sweeteners added to foods and beverages

HFCS encourages overeating because it fails to trigger the necessary chemical messengers that tell the brain the stomach is full

In 1970, people in the U.S. consumed about ½ pound of HFCS per year

By 2001, Americans consumed nearly 63 pounds annually (that's 313 calories per day!!!)

What to do about it:

- Read labels to check for foods with high concentrations of HFCS
- If a product has 8+ grams of sugar and HFCS is one of the first 3 ingredients, buy something else!

#5: We're not moving enough

In the past 25-30 years, we have gone from being a service economy (walking, moving, lifting) to an information economy (based at desks)—and with each advancement, we become more sedentary

For example: If you were a full-time secretary back in 1960, and you went from a manual typewriter to a word processor, you would have gained 10 pounds in a year just from that one change!--Thomas

Wadden, PhD

What to do about it:

- Get out and exercise (for every pound of muscle, the body will burn around 50+ calories a day!)
- Exercise can be something as simple as returning a grocery cart to the store, taking the stairs instead of the elevator, hanging up the cordless phone, etc.

#6: We're eating when we're NOT hungry

75% of overeating is triggered by emotions—especially in women

What to do about it:

- Before taking a bite of anything, get in the habit of questioning why you're eating it
- If you are not really hungry, wait 15 minutes before getting a snack (by then the craving is likely to go away...)

#7: Our stress levels are through the roof

A recent survey by the Pew Research Center found that 21% of people who frequently feel stressed say they often overeat and another 25% say they tend to binge on junk food

What to do about it:

- If doing something besides eating—walking around the block, reading a tabloid—is not an option, try the right munchies!
- Researchers at the Massachusetts Institute of Technology in Cambridge found that serotonin levels are boosted by starchy snacks that contain little or no protein
- Best picks: veggie sushi rolls, rice cakes, a baked sweet potato or soy chips

#8: We're sleep deprived

Studies show that sleep duration has been decreasing over the last 30 years—to the point that we have lost over 1 hour a night!

One recent study conducted at Western Reserve University in Cleveland found that, on average, women who sleep 5 hours or less a night are 32% more likely to gain weight and 15% more likely to be obese than those who get 7+ hours a night

Another study from Laval University in Quebec showed that women who slept 6-7 hours a night were 11 pounds heavier than those who slept 7-8 hours

What to do about it:

- Get more sleep! (Duh...)
- Get up and go to bed at the same time every day (even on weekends)
- Make sure the bedroom is cool and dark
- Most people need a 2-3 hour buffer zone to relax between their active part of their day and when they go to sleep

An added benefit of zzzzzz's:

- Research shows that people who sleep only 5 hours a night have a 40% greater risk of heart attacks!--As reported in Woman's World; 6/23/08

In the article entitled, '101 Weight-Loss Tips & Tricks That Really Work', Stacey Colino provides a 'comprehensive list of solutions designed to fit any lifestyle'

Among the notable tips:

Put a mirror in the kitchen

An Iowa State University study found that people who ate in front of a mirror consumed considerably less high-fat foods

Take a whiff of a pleasant scent

Research at The Smell & Taste Treatment and Research Foundation found that when a blend of peppermint, banana, and green apples was inhaled, the urge to eat was diminished and overweight participants lost considerably more weight during the 6 month study

'It may be that aromas satisfy cravings because 90% of what we call 'taste' is really smell' --Alan R. Hirsch, MD

Get a dog—or borrow one—and walk it

Research at the University of Missouri-Columbia found that when people were given loaner dogs to be responsible for, they started walking more often and for longer periods of time—and lost an average of 14 pounds during a year!

Avoid eating amnesia

Certain practices—eating in front of the TV, eating while standing, or eating off your children's plate—can make you forget how much you have eaten

Solution: Eat only at a table and only off your own plate

Keep your hands busy

Whenever the urge to munch strikes—and it's not meal or snack time—knit, crochet, polish your nails, write a note, do a crossword puzzle (it's impossible to eat when your hands are full!)

Eat soup frequently

In a recent study at Pennsylvania State University, people who consumed 2 servings of low-calorie soup per day lost 50% more weight than those who consumed 2 snacks per day

Who you eat with is important

According to a recent study published in The New England Journal of Medicine, if your friends gain weight, there's a good chance you will, too

Researchers found that people with a friend who became obese increased their own odds of gaining weight by 57%

If the person was a close friend, the chances went up a whopping 171%!

Specific Diet Trends

The Atkins Diet

The Atkins diet promises that not only will you lose weight—and not be hungry—with a low-carbohydrate diet, but you'll also be on the road to better heart health and memory function

Our bodies burn both fat and carbohydrates for energy, but carbs are used first

'We know on a molecular level that the body's pathways are less efficient at turning protein calories into glucose. That means that more energy is lost as heat.'--Biochemists Richard Feinman and Eugene Fine of SUNY Downstate Medical Center

Therefore, more of each calorie will convert to heat if it comes from proteins; more of the calorie will remain in the body if it comes from carbohydrates

For most people, carbohydrate consumption must be no more than 40 grams a day for this biochemical mechanism to occur

A year-long study of four popular diet programs found that the Atkins diet had the BEST overall results when compared to the Ornish diet (based on the book: 'Eat More, Weigh Less'), the Zone diet (more later), and the LEARN diet ('Lifestyle, Exercise, Attitudes, Relationships & Nutrition')

At the end of the year, here was the weight loss breakdown:

- Atkins 10.4 pounds lost
- LEARN 5.7 pounds lost
- Ornish 4.8 pounds lost
- Zone 3.5 pounds lost

The study included 311 women who were mostly in their 40s, overweight, and had no other major health problems

Not only did the women on the Atkins diet lose more weight, they also demonstrated lower blood pressure and improved cholesterol levels over the other diet groups

'[The Atkins diet] seems to be a viable alternative for dieters.'--Christopher Gardner; assistant professor of medicine at Stanford University's Prevention Research Center; Lead Researcher in diet study; responding to health professionals skeptical of low-carb diets; as reported by Nancy McVicar; South Florida Sun-Sentinel; 3/7/07

The South Beach Diet

The Premise: The South Beach Diet recommends cutting carbs, but it makes a distinction between 'good carbs' (fruits, vegetables and the complex ones found in whole grains) and the 'bad carbs' (refined flour, sugar)

It is a 3-phase plan that focuses on lean protein, healthy carbs and fats with omega-3

Although this diet book is already a best seller, some think that because it is a bit more complicated than Atkins' and does not let the dieter eat bacon and eggs all day, it may not have such 'broad appeal'

'It is nutrient-dense and high in fiber, which slows digestion, so you are not hungry soon after you eat.'--Dr. Arthur Agatston; creator of The South Beach Diet

South Beach Diet Super Charged introduces a fitness program that shows how to work out smarter—not longer

The workouts combine cardio interval training and core functional exercises that are designed to rev metabolism—the 20-minute workouts (no expensive equipment necessary) speed fat and calorie burn (even at rest), increase fitness, tone muscles, and allow dieters to overcome frustrating weight-loss plateaus

For More Info:

www.southbeachdiet.com

The Zone Diet

Many Hollywood celebrities—including Sandra Bullock and Denise Richards—have tried this plan created in 1995 by MIT researcher, Dr. Barry Sears

All meals and snacks must contain 40% carbs, 30% fat and 30% protein

The Premise: The low-calorie diet works to control insulin—one of the major hormones causing hunger

For More Info: www.drsears.com

The Paleotech Plan

Dieters are encouraged to limit consumption of sugar, carbohydrates, and caffeine—these foods, in the forms that we find them today, were not available to the earliest societies of humans

This diet requires participants to eat 3 meals and 3 snacks daily that emphasize lean, high quality protein (egg whites, chicken), lots of vegetables, ‘good carbs’ (brown rice, yams) and omega-3 fatty acids (salmon, walnuts)

‘Eliminating wheat will reduce bloat and lethargy. Omega-3s help stabilize your appetite and, over time, your weight.’--Oz Garcia; nutritionist and author; The Healthy High Tech Body

Garcia also recommends drinking 2-4 liters of Fiji water daily

The 3-Hour Diet

While many diet books focus on what you eat, this one focuses on WHEN you eat

Celeb-fitness guru, Jorge Cruise, prescribes a plan where dieters eat every three hours (mostly vegetables, protein the size of a deck of cards, a dash of fat and a fistful of healthy carbs) to cut cravings, prevent junk-food binges and to minimize belly fat

The Premise: By eating every three hours, the body’s metabolism resets and the dieter can lose 2 pounds a week

3 is the magic number because by going more than three hours between meals puts the body in a starvation mode and causes breakdown of fat burning muscle

Benefits of Eating Every 3 Hours:

- Burns 64% more fat
- 56% less fat is stored
- Food cravings are lessened by 81%
- Metabolism is increased by 78%
- Happiness can be boosted by 80%

--As reported in First; 9/22/08

For More Info: www.3hour.com

The Diet for Teenagers Only

In the new book The Diet For Teenagers Only, Carrie Wiatt and coauthor Barbara Schroeder offer a sensible eating guide tailored to this market

Major Problem: There are few—if any—courses in home economics and families rarely eat together anymore

According to the authors, teens are going through the biggest growth spurt of their lives; they need to know what to eat so they get everything they need

The authors include tips on what to order in fast-food restaurants and how to spot the signs of an eating disorder—as well as chapters with titles like “Grocery Shopping 101” and “My Boyfriend Dumped Me, And I Can’t Stop Eating.”

One Piece of Advice for Teens: Do NOT skip meals!

Teens think they're losing weight but they are making themselves very sick

Not eating slows down their metabolism

'You have to eat food to burn fat !'

THANK YOU!