

Sickening facts.... Recognizing medically complex patients

Anne N. Guignon, RDH, MPH, CSP

anne@anneguignon.com

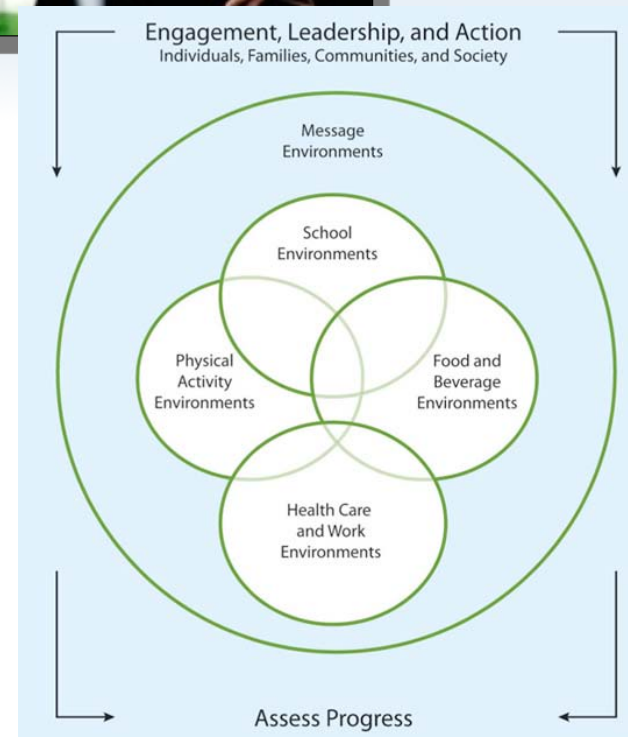
832-9871-4540

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Conversation starters!

oral health to general health

- ★ get the facts
- ★ develop positive energy
- ★ create a legitimate spin
- ★ focus on health benefits
- ★ discuss savings - money, time, comfort
- ★ offer reasonable alternatives
- ★ coaching not scolding



Fast facts.....

Adults – untreated decay

- 28% - age 20-34
- 26% - age 35-59
- 22% - age 50-64

28% men, 23% women

- 18% - age 65+

20% men, 16% women



<http://www.nidcr.nih.gov/DataStatistics/FindDataByTopic/DentalCaries/DentalCariesAdults20to64.htm>

<http://www.nidcr.nih.gov/DataStatistics/FindDataByTopic/DentalCaries/DentalCariesSeniors65older.htm>

Accessed 7/28/2015

Fast facts.....

Decay in children



- 28% age 2-5
- 50% by age 11
- 68% at age 19
- low income children - 2 X decay
- 4 X more common than asthma (42% versus 9.5%)
- 52,000,000 lost school hours/year - dental disease

Nutritional value in one can?



- 10 teaspoons of sugar – daily RDA limit
- 150 calories
- 23 cans = one pound of body fat
- 30 to 55 mg of caffeine
- artificial food colors
- phosphoric acid – may interfere with calcium absorption

USA – average annual consumption



- ***average American drinks 100 gal/year*** – three bath tubs full!
- teen age boys drink 160 gal/year
- ***one-quarter of all drinks consumed***
- 450 different types of soda pop
- 2,500,000 vending machines in the USA

Jacobsen MF. Liquid candy – How soft drinks are harming Americans' health. Center for Science in the Public Interest. July 2005

The beverage of choice – kids and teens

consumption doubled in the last ten years

teenage boys

3+ cans / day

10% drink 7+ cans a day

Teenage girls

2 cans per day

10% drink more than 5+ cans a day



Beverage consumption Fast Facts.....

Children age 6 - 11 from 1977 - 2001

increased

- 137% soda consumption
- 54% fruit juice
- 69% fruit drink

decreased

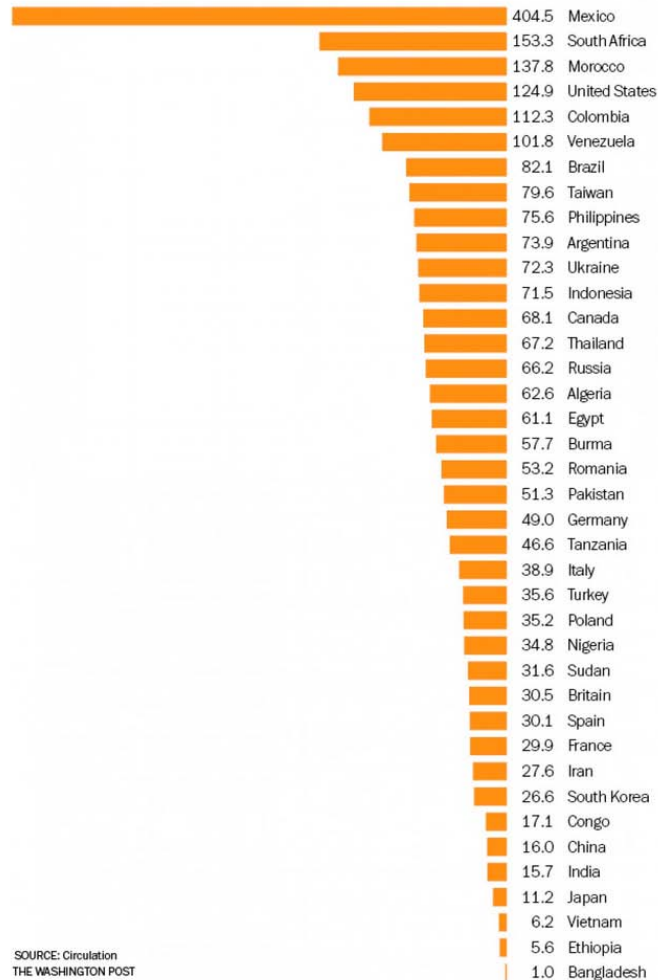
- 39% milk consumption



sugar sweetened beverages - 11% total calories

Death by sugary drink

DEATH RATE FROM SUGARY DRINKS, PER MILLION ADULTS



SOURCE: Circulation
THE WASHINGTON POST

25,000 annual US deaths

increases risk for

- ★ diabetes
- ★ cardiovascular disease
- ★ cancer

Energy drinks contents and rebranding

- ▶ caffeine
- ▶ 80–300 mg per 16-oz
- ▶ herbs
- ▶ guarana (high in caffeine)
- ▶ taurine
- ▶ ginseng
- ▶ ginkgo biloba
- ▶ other various ingredients



Rebranding as a beverage

- ✓ no longer under FDA reporting for injuries or deaths
- ✓ be purchased with food stamps
- ✓ must list ingredients

Wolk BJ, Ganetsky M, Babu KM. Toxicity of energy drinks. Curr Opin Pediatr. 2012 Apr;24(2):243-51.

McLellan TM, Lieberman HR. Do energy drinks contain active components other than caffeine? Nutr Rev. 2012 Dec;70(12):730-44.

Energy drinks risks

- ★ heart palpitations
- ★ increases blood pressure
- ★ nausea, stomach upsets
- ★ headaches
- ★ psychiatric disturbances
- ★ sleep disturbances
- ★ tooth erosion
- ★ weight gain
- ★ fatigue



Wolk BJ, Ganetsky M, Babu KM. Toxicity of energy drinks. Curr Opin Pediatr. 2012 Apr;24(2):243-51.

Seifert SMI, Seifert SA, et al. An analysis of energy-drink toxicity in the National Poison Data System. Clin Toxicol (Phila). 2013 Aug;51(7):566-74.

Energy drinks – Troops



- ▶ Monster - top seller - military PX
- ▶ 44% deployed troops - one can daily
- ▶ 13.9% 3+ cans/day - slept less than 4 hours a day
- ▶ 3 cans daily - sleep problems, stress, illness, day time sleepiness

<http://www.stripes.com/news/air-force-studies-effects-of-highly-popular-super-caffeinated-drinks-1.201067>

CDC. energy drink consumption and its association with sleep problems among US service members on combat deployment - Afghanistan, 2010. MMWR Morb Mortal Wkly Rep. 2012 Nov 9;61(44):895-8.

Jacobson IG, Horton JL, et al. Ann Epidemiol. 2012 May;22(5):318-30. Bodybuilding, energy, and weight-loss supplements are associated with deployment and physical activity in U.S. military personnel.

When do teeth melt???



- critical pH – is a dynamic number
- dependent on salivary calcium and phosphorus
- average resting salivary pH 6.4 – 7.2
- root structure - pH 6
- enamel - between pH 5 and 5.5
- fluorapatite - pH 4.5

Mount GJ and Hume WJ. Preservation and restoration of tooth structure. Knowledge books and software. 2nd Edition. 2005

Dawes C. What is the critical pH and why does tooth dissolve in acid? J Can Dent Assoc 2003; 69(11):722–4

Stookey GK. The effect of saliva on dental caries. JADA 2008 May; 139;115-175.

Lussi A, Schlueter N, et al. Dental erosion--an overview with emphasis on chemical and histopathological aspects. Caries Res. 2011;45 Suppl 1:2-12.

Erosion – complicating medical conditions

GERD – gastric esophageal reflux

- 7% adults experience daily episodes
- 36% monthly
- children also experience GERD

Anorexia

- 47 % are in binge/purging subcategory
- refusal to maintain normal weight

Bulimia

- typically normal weight
- self induced vomiting after consuming food



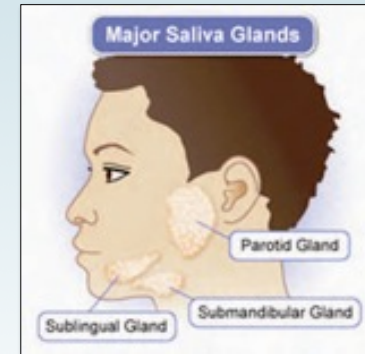
Salivary dysfunction – etiology and contributing factors

- dehydration
- stress
- smoking
- systemic disease
- recreational drugs
- chronic renal failure
- autoimmune disorders
- asthma
- mouth breathing
- during exercise
- sleep apnea
- C-Pap machines
- salivary gland pathology
- radiation treatment
- hormone imbalance
- laxative/diuretic abuse
- pharmaceutical and OTC medications (over 1,800 meds)



Saliva – Fast facts.....

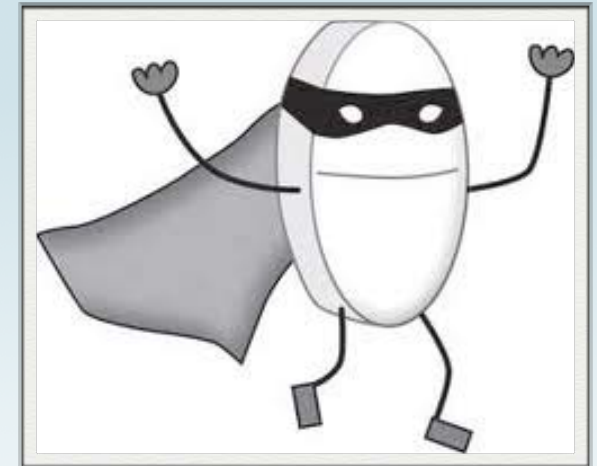
- peak salivary flow - end of the afternoon
- near zero flow during sleep
- acid substances ↑ salivary flow rates
- 80-90% saliva is stimulated
- parotid gland – 50% of stimulated saliva



de Almeida PDV, Grégio AMT, Machado MÂN, de Lima AAS, Azevedo LR. Saliva composition And functions: A comprehensive review. J Contemp Dent Pract 2008 March; (9)3:072-080.

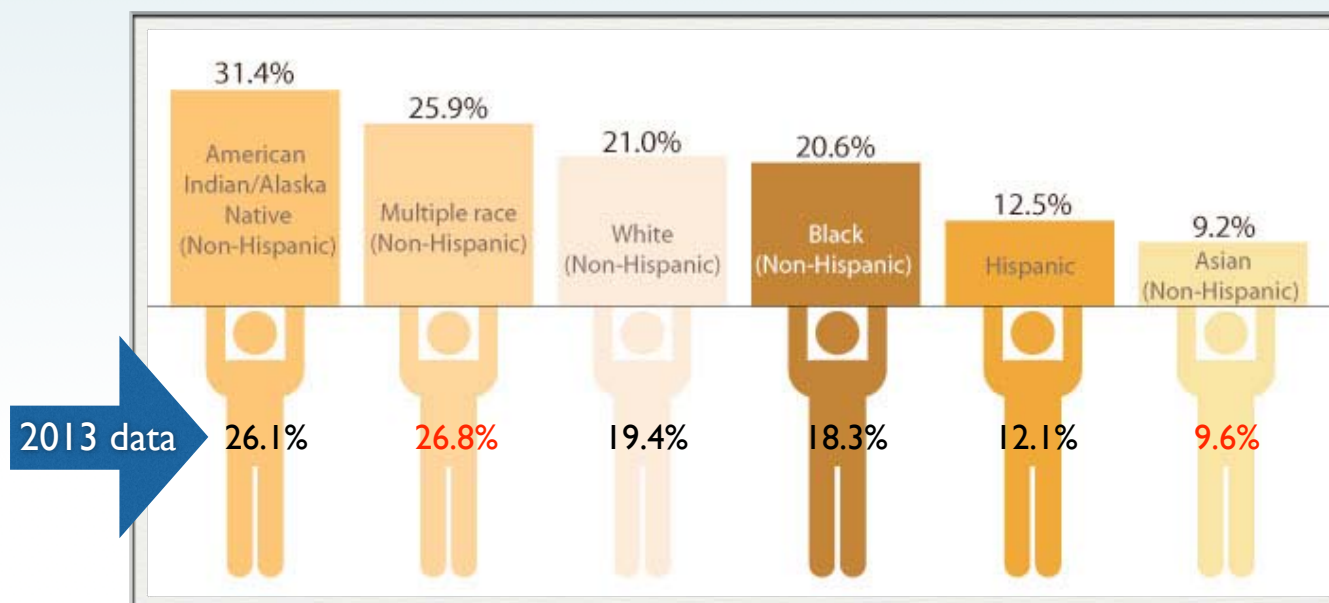
Health history clues

- medications - poly pharmacy
- antibiotics - prolonged use compromise intestinal flora
- acid reducers - alter intestinal tract pH



Smoking statistics – USA

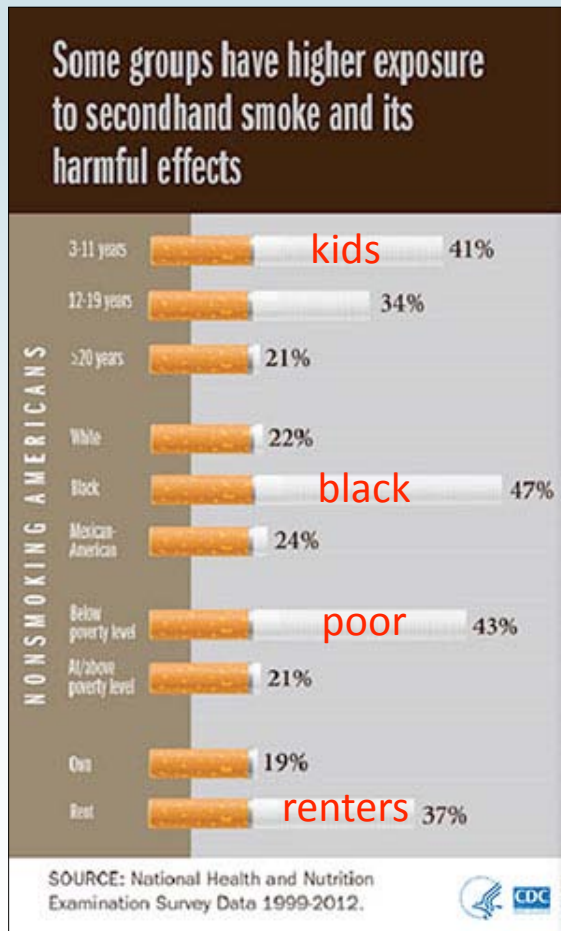
- ★ 17.8% (42.1million) Americans
- ★ 20.5% of men
- ★ 15.3% of women



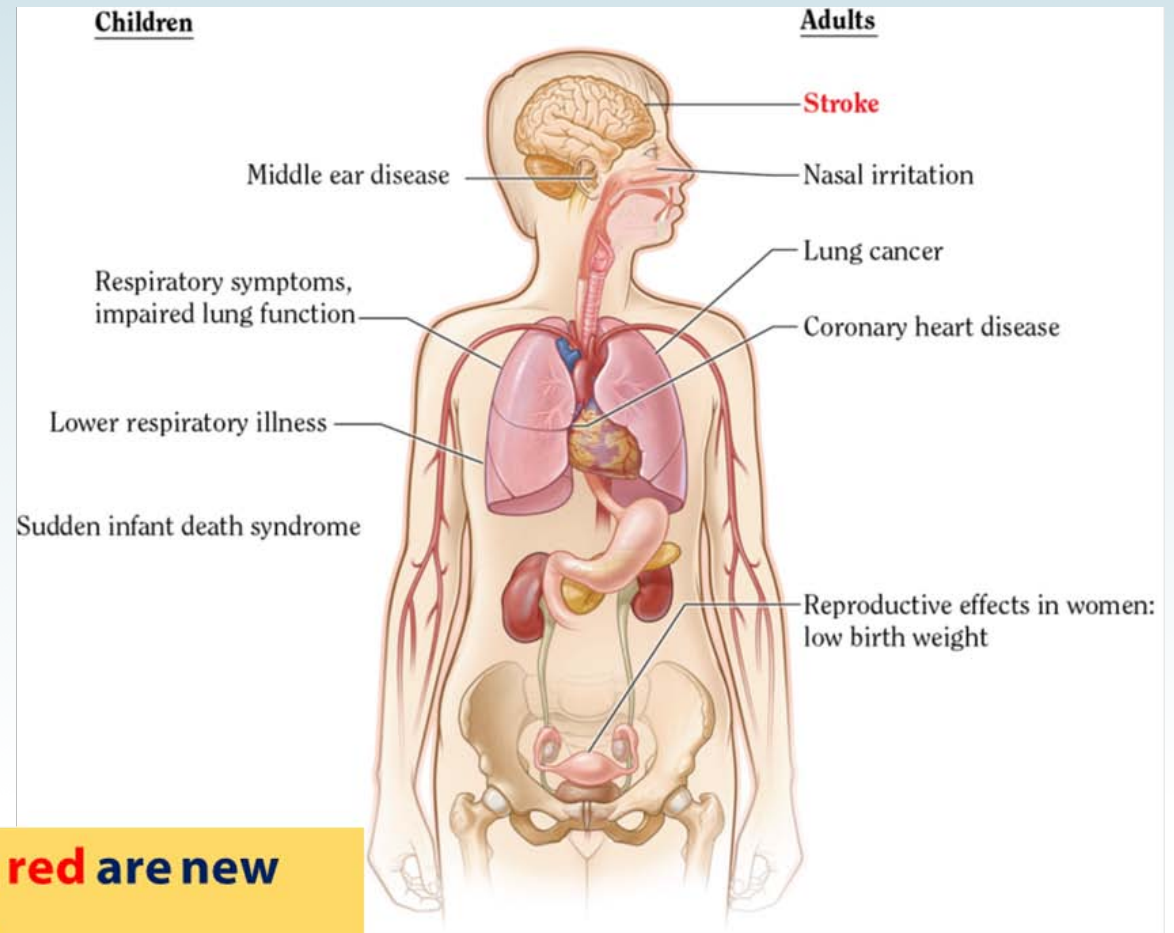
http://www.cdc.gov/tobacco/data_statistics/fact_sheets/adult_data/cig_smoking/index.htm Accessed 7/7/2012

http://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/index.htm/24/15 Accessed 7/24/15

Secondhand smoke



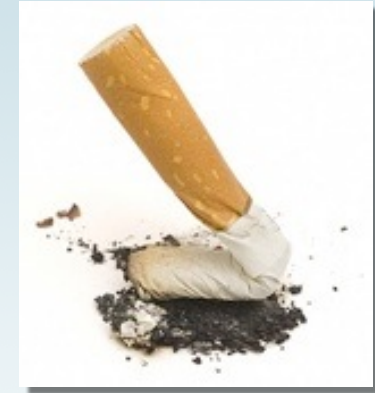
Conditions in red are new SGR findings



Nicotine withdrawal symptoms

Withdrawal peaks within 24-48 hours

Diminishes over 1 to 3 months.



- ✓ constant craving of cigarettes
- ✓ insomnia
- ✓ irritability
- ✓ anxiety
- ✓ frustration
- ✓ anger
- ✓ depression
- ✓ difficulty concentrating
- ✓ restlessness
- ✓ decreased heart rate
- ✓ increased appetite
- ✓ fatigue

Counseling intervention elements – 800-quit-now



Quit date:

- stop date - in 2 weeks
- total abstinence - essential

Past quit experience: identify coping strategies

Anticipate triggers/challenges: overcoming

Metabolic syndrome –

Cluster of cardiovascular disease
and diabetes risk factors

excess waist circumference

- men — > 40 inches
- women — > 35 inches

high fasting glucose levels - >100mg/dL



Metabolic syndrome –

Cluster of cardiovascular disease and diabetes risk factors



- high blood pressure - $> 130/85$ mm Hg
- elevated triglycerides - > 150 mg/dL
- low levels of HDL "good" cholesterol)
 - men — < 40 mg/dL
 - women — < 50 mg/dL
- high levels of C reactive protein

Stats on fat in the USA



- 350,000 die annually - obesity-related illnesses
- 2/3 adult population - overweight
- 30% overweight are obese – (BMI 40% above ideal weight)
- 4.7% severely obese
- racial disparities for women but not men
- 2/3 told overweight by a health care provider

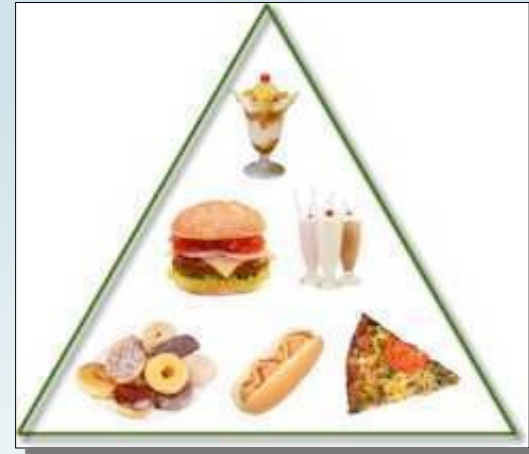
Obesity- epidemic of huge proportions increases risk for

- diabetes
- heart disease and stroke
- kidney disease
- arthritis
- hypertension
- cancer (colon, breast, endometrial)
- abnormal menses, infertility
- pregnancy complications
- dementia, depression
- gall bladder disease
- sleep apnea





Childhood obesity

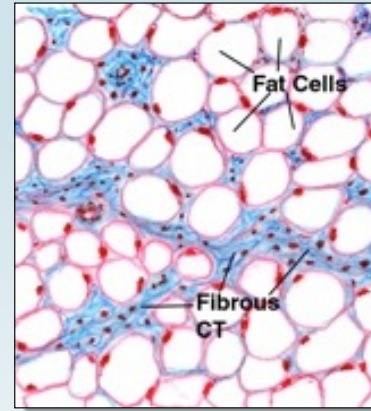


children born in US - 35% risk type 2 diabetes

first generation to have a shorter lifespan than parents

50% percent for Hispanic and African American children

Obesity – Fast facts.....



Total fat cell count reached in adolescence!

- *7% in USA are binge eaters*
- 25% of binge eaters are obese
- federal funding - obesity related programs - stagnant or decreasing 2004 – 2009

Food insecurity in seniors = compromised nutrition



- 2013 - 9% food insecure
- ↑disability, ↓infection resistance, longer hospital stays
- skip meals - for medication / pay utilities
- 76% - feelings of stigma - SNAP/Food Stamp
- SNAP barriers - mobility, technology, paperwork, language
- myths - program dynamics / who qualifies

<http://frac.org/initiatives/addressing-senior-hunger/> Accessed 7/27/15

<http://feedingamerica.org/hunger-in-america/hunger-facts/senior-hunger.aspx> Accessed 7/27/15

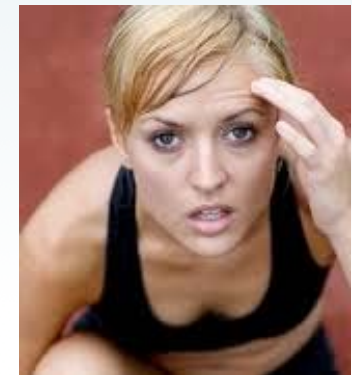
Eating disorders – behaviors and findings

- consume - acidic beverages and fresh fruits
- antidepressants - cause dry mouth
- binge/purge – high carbohydrate intake
- anorexia - often poor oral hygiene



Eating disorders/excessive exercise/suicide risk

- bulimia - strong relationship over-exercise and suicide
- 1/3 diagnosed bulimics attempt suicide
- over-exercise predicts pain insensitivity
- pain insensitivity predicts ACS (acquired capability for suicide)



THE RESTAURANTS IN THIS STUDY



Fast food ads viewed in 2009

Restaurant	2009 ad spend (in millions)	Ages 2-5	Ages 6-11	Ages 12-17
McDonald's	\$898.1	309	368	284
Subway	\$424.6	97	127	177
Wendy's	\$282.6	46	58	113
Burger King	\$281.6	152	185	189
KFC	\$268.9	62	78	146
Taco Bell	\$243.4	50	69	140
Pizza Hut	\$221.8	54	69	125
Sonic	\$185.1	27	37	68
Domino's	\$180.8	35	46	85
Dunkin' Donuts	\$120.9	11	15	28
Dairy Queen	\$77.6	20	27	48
Starbucks	\$28.9	--	--	--
All fast food	\$4,217.7	1,021	1,272	1,723

Source: The Nielsen Company (2010)

Recommended calorie limits per meal

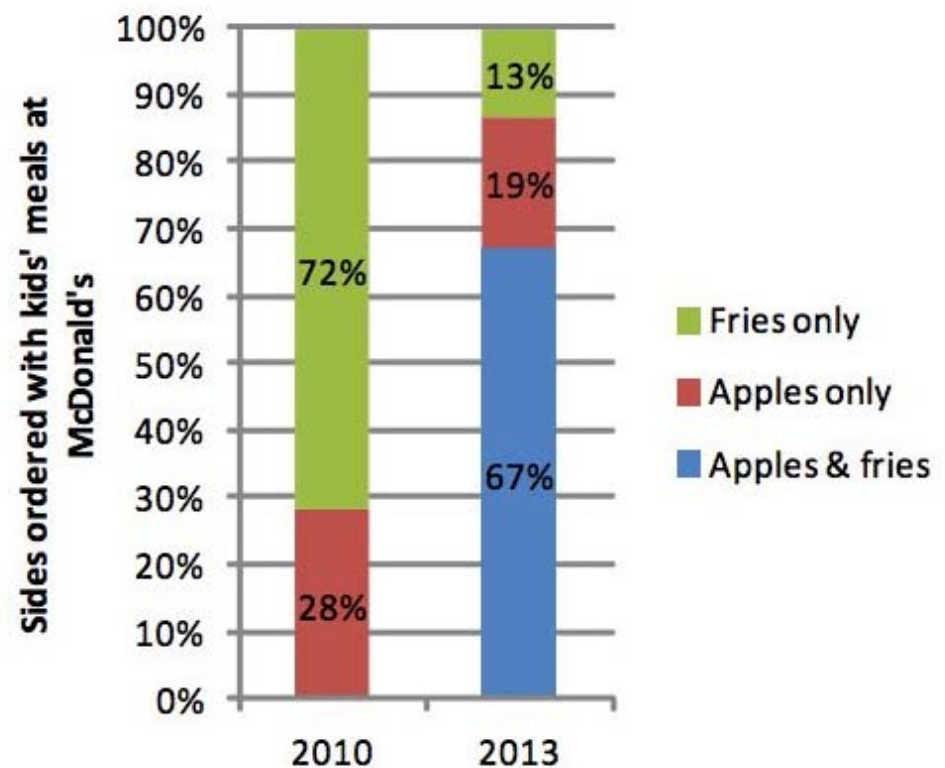
Preschoolers (2-5 years)	410 calories
Elementary-age children (6-11 years)	650 calories

Shifting calories

Counting Calories in Kids' Meals

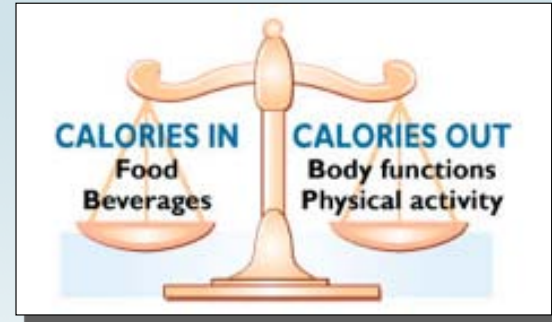
Happy Meal			
Lowest-calorie option	Calories (kcal)	Substituted item	Additional calories (kcal)
4-piece McNuggets (with BBQ sauce)	240	Cheeseburger	+60
Apple slices (double portion)	30	Fries (double portion)	+170
1% low fat milk	100	Hi-C Orange Lavaburst	+20
Total Calories: 370		Total Calories: 370 + 250 = 620	

Mighty Kids' Meal			
Lowest-calorie option	Calories (kcal)	Substituted item	Additional calories (kcal)
6-piece McNuggets (with BBQ sauce)	330	McDouble	+60
Apple slices (double portion)	30	Fries (double portion-small and kids' sizes)	+300
1% low fat milk	100	Hi-C Orange Lavaburst	+60
Total Calories: 460		Total Calories: 460 + 420 = 880	



Finding balance video

cdc.gov/CDCtv/FindingBalance



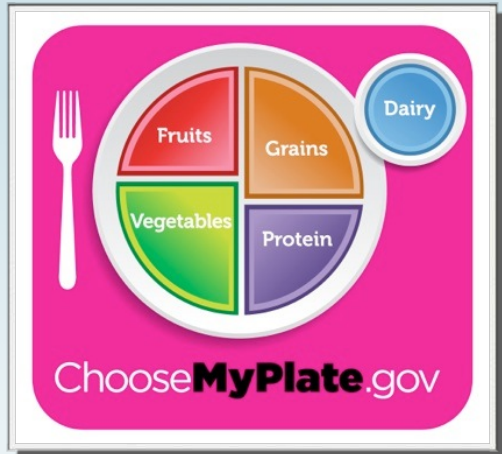
Healthy weight - it's not a diet, it's a lifestyle!

cdc.gov/healthyweight/index.html

Tips for parents – Ideas to help children maintain a healthy weight

cdc.gov/healthyweight/children/index.html

Accessed 7/29/2015



**10 Tips nutrition
education series
*sheets in English
and Spanish!***

Sample topics:

- ✓ Eating better on a budget
- ✓ Use supertracker your way
- ✓ Enjoy your food, but eat less
- ✓ Make better beverage choices
- ✓ Make celebrations fun, healthy & active
- ✓ Kid-friendly veggies and fruits
- ✓ Be a healthy role model for children
- ✓ Cut back on your kid's sweet treats

10 tips
Nutrition
Education Series

cut back on your kid's sweet treats



10 tips to decrease added sugars

Limit the amount of foods and beverages with added sugars your kids eat and drink. If you don't buy them, your kids won't get them very often. Sweet treats and sugary drinks have a lot of calories but few nutrients. Most added sugars come from sodas, sports drinks, energy drinks, juice drinks, cakes, cookies, ice cream, candy, and other desserts.

1 serve small portions

It's not necessary to get rid of all sweets and desserts. Show kids that a small amount of treats can go a long way. Use smaller bowls and plates for these foods. Have them share a candy bar or split a large cupcake.

2 sip smarter

Soda and other sweet drinks contain a lot of sugar and are high in calories. Offer water, 100% juice, or fat-free milk when kids are thirsty.



3 use the check-out lane that does not display candy

Most grocery stores will have a candy-free check-out lane to help moms out. Waiting in a store line makes it easy for children to ask for the candy that is right in front of their faces to tempt them.

4 choose not to offer sweets as rewards

By offering food as a reward for good behavior, children learn to think that some foods are better than other foods. Reward your child with kind words and comforting hugs, or give them non-food items, like stickers, to make them feel special.

5 make fruit the everyday dessert

Serve baked apples, pears, or enjoy a fruit salad. Or, serve yummy frozen juice bars (100% juice) instead of high-calorie desserts.



6 make food fun

Sugary foods that are marketed to kids are advertised as "fun foods." Make nutritious foods fun by preparing them with your child's help and being creative together. Create a smiley face with sliced bananas and raisins. Cut fruit into fun and easy shapes with cookie cutters.

7 encourage kids to invent new snacks

Make your own snack mixes from dry whole-grain cereal, dried fruit, and unsalted nuts or seeds. Provide the ingredients and allow kids to choose what they want in their "new" snack.



8 play detective in the cereal aisle

Show kids how to find the amount of total sugars in various cereals. Challenge them to compare cereals they like and select the one with the lowest amount of sugar.

9 make treats "treats," not everyday foods

Treats are great once in a while. Just don't make treat foods an everyday thing. Limit sweet treats to special occasions.

10 if kids don't eat their meal, they don't need sweet "extras"

Keep in mind that candy or cookies should not replace foods that are not eaten at meal time.

10 tips
Nutrition
Education Series

make better beverage choices



10 tips to get started

What you drink is as important as what you eat. Many beverages contain added sugars and offer little or no nutrients, while others may provide nutrients but too much fat and too many calories. Here are some tips to help you make better beverage choices.

1 drink water

Drink water instead of sugary drinks when you're thirsty. Regular soda, energy or sports drinks, and other sweet drinks usually contain a lot of added sugar, which provides more calories than needed. To maintain a healthy weight, sip water or other drinks with few or no calories.



2 how much water is enough?

Let your thirst be your guide. Water is an important nutrient for the body, but everyone's needs are different. Most of us get enough water from the foods we eat and the beverages we drink. A healthy body can balance water needs throughout the day. Drink plenty of water if you are very active, live or work in hot conditions, or are an older adult.

3 a thrifty option

Water is usually easy on the wallet. You can save money by drinking water from the tap at home or when eating out.

4 manage your calories

Drink water with and between your meals. Adults and children take in about 400 calories per day as beverages—drinking water can help you manage your calories.

5 kid-friendly drink zone

Make water, low-fat or fat-free milk, or 100% juice an easy option in your home. Have ready-to-go containers filled with water or healthy drinks available in the refrigerator. Place them in lunch boxes or backpacks for easy access when kids are away from home. Depending on age, children can drink $\frac{1}{2}$ to 1 cup, and adults can drink up to 1 cup of 100% fruit or vegetable juice* each day.



*100% juice is part of the Fruit or Vegetable Group. Juice should make up half or less of total recommended fruit or vegetable intake.

6 don't forget your dairy**

When you choose milk or milk alternatives, select low-fat or fat-free milk or fortified soymilk. Each type of milk offers the same key nutrients such as calcium, vitamin D, and potassium, but the number of calories are very different. Older children, teens, and adults need 3 cups of milk per day, while children 4 to 8 years old need $2\frac{1}{2}$ cups and children 2 to 3 years old need 2 cups.



7 enjoy your beverage

When water just won't do—enjoy the beverage of your choice, but just cut back. Remember to check the serving size and the number of servings in the can, bottle, or container to stay within calorie needs. Select smaller cans, cups, or glasses instead of large or supersized options.

8 water on the go

Water is always convenient. Fill a clean, reusable water bottle and toss it in your bag or brief case to quench your thirst throughout the day. Reusable bottles are also easy on the environment.



9 check the facts

Use the Nutrition Facts label to choose beverages at the grocery store. The label contains information about total sugars, fats, and calories to help you make better choices.

10 compare what you drink

Food-A-Pedia, an online feature available at ChooseMyPlate.gov/SuperTracker, can help you compare calories, added sugars, and fats in your favorite beverages.

** Milk is a part of the Dairy Group. A cup = 1 cup of milk or yogurt, $\frac{1}{2}$ ounce of natural cheese, or 2 ounces of processed cheese.



SuperTracker:

My foods. My fitness. My health.

- Get your personalized nutrition and physical activity plan.
- Track your foods and physical activities to see how they stack up.
- Get tips and support to help you make healthier choices and plan ahead.

Portion size matters.

1/4 grains

1/2 vegetables and fruit



Reduce portion sizes and fill your plate like this.

1/4 protein

Food-A-Pedia >

Look up nutrition info for over 8,000 foods and compare foods side-by-side.

All Foods



Food Tracker >

Track the foods you eat and compare to your nutrition targets.

All Foods



Physical Activity Tracker >

Enter your activities and track progress as you move.

All Activities



My Weight Manager >

Get weight management guidance; enter your weight and track progress over time.



My Top 5 Goals >

Choose up to 5 personal goals; sign up for tips and support from your virtual coach.



My Reports >

Use reports to see how you are meeting goals and view your trends over time.



<https://www.choosemyplate.gov/SuperTracker/default.aspx>

Rethink your drink!

Eat Smart North Carolina: Snacks and Drinks



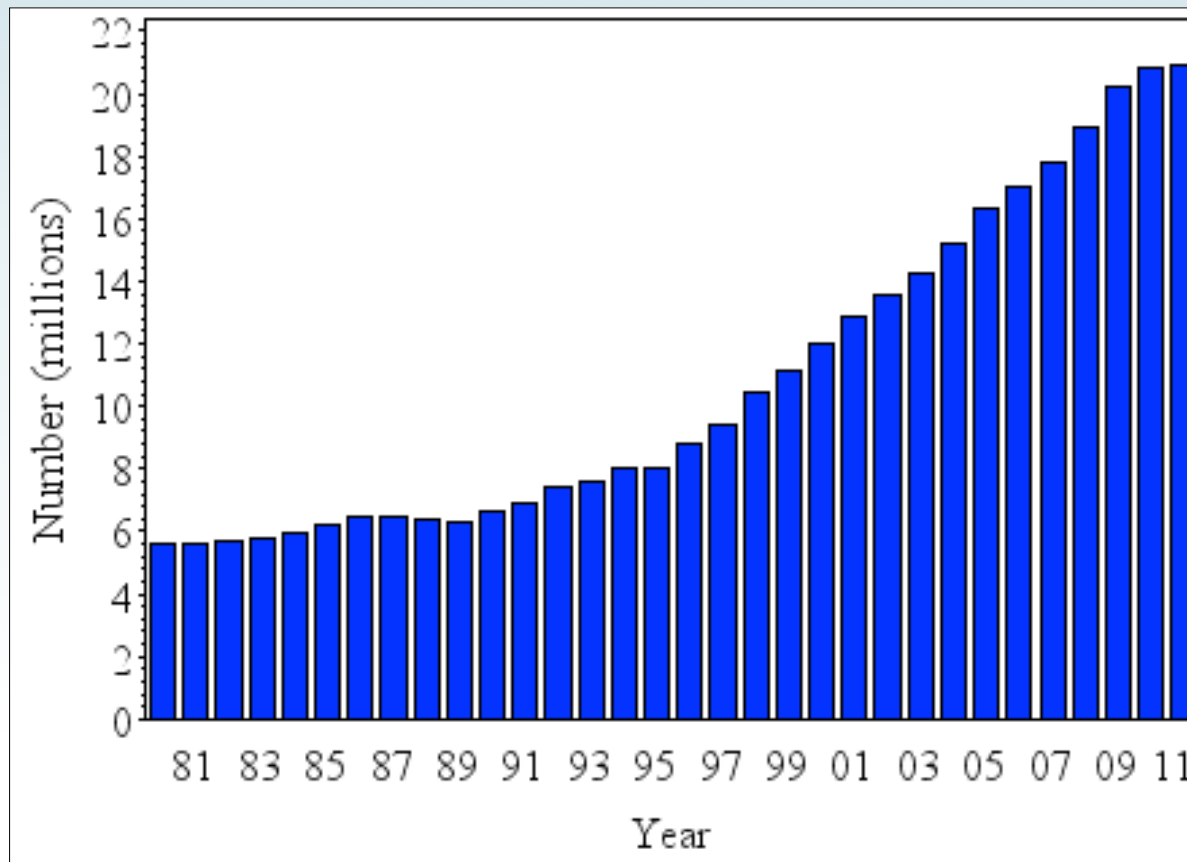
July 27, 2015

New label proposal
FDA proposing to
include a percent
daily value for added
sugars!

Nutrition Facts	
Serving Size: 1 20-oz bottle	
Amount per serving	
Calories	250
% Daily Value*	
Total Fat	0g 0%
Sodium	0mg 0%
Total Carbohydrate	
Sugars	67g
Protein	0g
Not a significant source of calories from fat, saturated fat, trans fat, cholesterol, dietary fiber, vitamin A, vitamin C, calcium and iron.	
*Percent Daily Values are based on a 2,000 calorie diet.	
Beverage "G"	

Nutrition Facts	
Serving Size: 1 20-oz bottle	
Amount per serving	
Calories	250
% Daily Value*	
Total Fat	0g 0%
Sodium	0mg 0%
Total Carbohydrate	
Sugars	16 teaspoons
Protein	0g
Not a significant source of calories from fat, saturated fat, trans fat, cholesterol, dietary fiber, vitamin A, vitamin C, calcium and iron.	
*Percent Daily Values are based on a 2,000 calorie diet.	
Beverage "T"	

Prevalence tripled-30 years



<http://www.cdc.gov/diabetes/statistics/prev/national/figpersons.htm> Accessed 7/28/2015

Prevalence of diabetes in USA - 2014

9.3% of the American population

diagnosed: 21.9 million people

un: 8.1 million people

pre-diabetes - adults: 86 million people

1.7 million new cases diagnosed annually - **rate not increasing!**

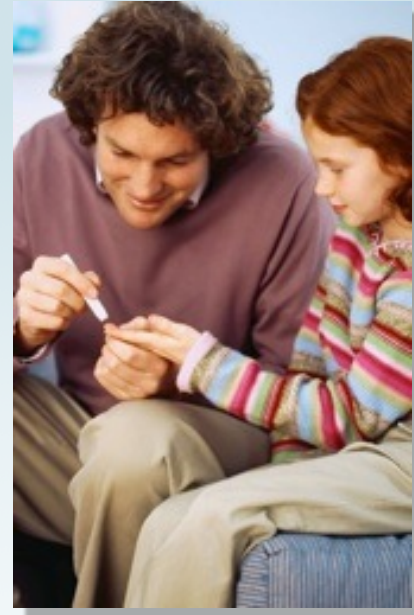


<http://www.cdc.gov/diabetes/pubs/statsreport14/national-diabetes-report-web.pdf> Accessed 7/28/2015

Weiss LS, et al. Prevalence and Incidence Trends for Diagnosed Diabetes Among Adults Aged 20 to 79 Years, United States, 1980-2012. JAMA. 2014;312(12):1218-1226. doi:10.1001/jama.2014.11494

Diabetes increases risk for

- periodontal disease
- vision impairment – blindness*
- nerve damage
- hypertension – 75% of all diabetics
- heart disease/stroke – 2-4 x higher
- kidney failure *
- poor wound healing ***Diabetes is the leading cause**
- amputation *
- pregnancy complications



Working Together to Manage Diabetes: A Guide for Pharmacists, Podiatrists, Optometrists, and Dental Professionals, 2007

diabetes.niddk.nih.gov/dm/pubs/statistics/index.htm

ndep.nih.gov/publications/PublicationDetail.aspx?PubId=26&redirect=true#page3

Accessed 7/7/2012

Diabetes – oral manifestations

- ★ periodontitis
- ★ caries
- ★ fungal infections
- ★ delayed healing
- ★ impaired taste
- ★ burning mouth syndrome
- ★ salivary gland dysfunction - xerostomia
- ★ lichen planus
- ★ recurrent aphthous stomatitis





Turning the tide



7% weight loss + moderate physical activity

(walking 30 min/day, 5x a week)

-  type 2 diabetes risk - 58% over a 3 years
- 71%  - age 60 or older

Celiac disease – gluten intolerance



autoimmune inherited disorder

gluten protein - wheat, barley, rye....maybe oats

intestinal villi damaged **poor nutrient absorption**

one out of every 133 Americans - (3 million)

only 100,000 diagnosed

97% remain undiagnosed

Gluten intolerance symptoms

bloating / gas

diarrhea

constipation

fatigue

thin bones

itchy Skin rash

tingling/numbness

poor weight gain

joint pain

apthous ulcers

delayed growth

infertility

headaches

depression

irritability



Other Complications

autism

type one diabetes

osteoporosis

liver disease

anemia

autoimmune disorders

juvenile idiopathic arthritis

migraines

thyroid disease

intestinal cancer

Sjogren's syndrome

peripheral neuropathy

Down's syndrome

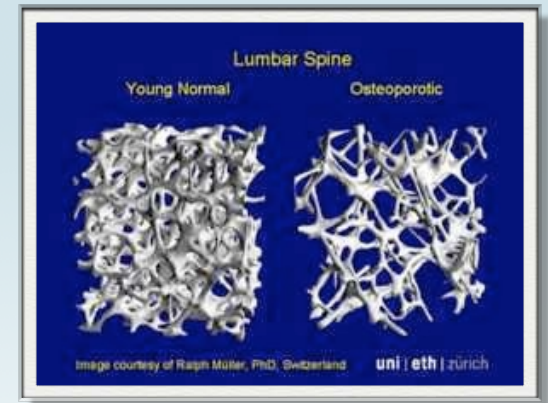
miscarriage / Infertility

short stature





The bare facts



Women can lose up to 20% of bone mass in

5-7 years following menopause - fastest period of bone loss

- ★ oral cavity bone loss - not dependent on inflammation
- ★ inflammation - more rapid breakdown

www.nof.org Accessed 7/27/2015

http://www.niams.nih.gov/Health_Info/Bone/Osteoporosis/overview.asp#b Accessed 7/8/2012

Risk factors

- female
- caucasian and Asian highest risk
- low body weight / bone mass
- thin / small boned
- history of fracture after age 50
- fracture history - 1st degree relative-mother/sister
- excessive intake of protein, sodium, caffeine
- inactive lifestyle
- advanced age



Risk factors

- family history
- cigarette smoking
- alcohol abuse
- anorexia
- menopause, especially early or surgical
- limited calcium intake / Vit D deficiency
- medications – cortisone, chemotherapy, anticonvulsants
- low estrogen in women, low testosterone in men



Additional medical conditions – increase fracture risk

- rheumatoid arthritis / autoimmune connective tissue disorders/lupus
- gastrointestinal diseases - celiac/IBS/weight loss surgery
- liver disease
- neurological -stroke/Parkinson's/MS
- renal disease
- insulin dependent diabetes
- organ transplantation
- premature menopause
- breast/prostate cancer
- COPD
- HIV/AIDS
- scoliosis
- female athlete triad
- polio
- depression



Building bones in teens

***85-90% of adult bone mass is acquired
girls - age 18 boys - age 20***



Peak bone mass around age 30

Osteoporosis - more likely if did not reach optimal peak bone mass

www.nof.org Accessed 7/7/2012

www.niams.nih.gov/Health_Info/Bone/Osteoporosis/overview.asp Accessed 7/28/2015

Sleep apnea facts

- adults - cease breathing >10 seconds
- children - 2.5 missed breaths
- hundreds of times during the night
- sometimes for a minute or longer
- blood oxygen levels drop



More risk factors

- family history
- smokers
- African Americans, Hispanics, and Pacific Islanders
- small airways - nose, throat, mouth
- structural shape, allergies, conditions that cause congestion
- enlarged tonsil tissues
- high blood pressure
- stroke or heart failure risk factors



Adult daily sleep

8 % < 6 hours

9% > 9 hours

both groups - higher risk for

- cigarette smoking
- 5+ alcoholic drinks daily
- no leisure time physical activity
- obese



Sleep duration as a correlate of smoking, alcohol Use, leisure-time physical inactivity, and obesity among adults: United States, 2004-2006
NCHS, National Health Interview Survey, 2004-2006. NCHS - Health and Stats May 2008.
cdc.gov/nchs/products/pubs/pubd/hestats/sleep04-06/sleep04-06.htm

The relationship to systemic disease..... what can a clinician do?

individual patient evaluation

- risk factors
- willing to do?
- motivated to change?

customize recommendations

- establish a dialogue with medical provider

