

Obesity in the Workplace: The Battle of the Bulge



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Epidemic of Overweight

- Over 2/3 of Americans are overweight or obese
- Excessive weight is a risk for over 30 health conditions
- Obesity is the 2nd leading preventable cause of death in the US



Prevalence of Obesity

- One of every three American adults is obese
- By 2015, 75% of adults will be overweight; 41% will be obese
- In 2008, only one state, Colorado had a prevalence of obesity below 20%
- Colorado's obesity rate rose 89% from 1995-2008



One-third of U.S. Children are Overweight

- The rate of childhood obesity increased 2 to 3 fold over the past 25 years
- A third of American children born in 2003 will develop diabetes



Body Mass Index Indicator

- Obesity is defined as a Body Mass Index (BMI) of 30 or above
- Overweight is defined as a Body Mass Index between 25-29.9
- Normal Body Mass Index is < 25



Healthy Weight and Waist

- What is a healthy weight?
 - BMI <25 is Normal
- What is a healthy waist measurement?
 - Women: 32.5 inches (health risks increase > 37)
 - Men: 35 inches (health risks increase > 40)

Height	Weight	BMI*	Considered
5'9"	125-168	18.5-24.9	Normal
	169-202	25-29.9	Overweight
	203+	30+	Obese

*Athletes may not be overweight but have a higher than normal BMI due to muscle

Body Mass Index (BMI)

		WEIGHT (lb)																							
		120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350
4' 5"	30	33	35	38	40	43	45	48	50	53	55	58	60	63	65	68	70	73	75	78	80	83	85	88	
4' 6"	29	31	34	36	39	41	43	46	48	51	53	55	58	60	63	65	68	70	72	75	77	80	82	84	
4' 7"	28	30	33	35	37	40	42	44	46	49	51	53	56	58	60	63	65	67	70	72	74	77	79	81	
4' 8"	27	29	31	34	36	38	40	43	45	47	49	52	54	56	58	61	63	65	67	69	72	74	76	78	
4' 9"	26	28	30	32	35	37	39	41	43	45	48	50	52	54	56	58	61	63	65	67	69	71	74	76	
4' 10"	25	27	29	31	33	36	38	40	42	44	46	48	50	52	54	56	59	61	63	65	67	69	71	73	
4' 11"	24	26	28	30	32	34	36	38	40	42	44	46	48	50	53	55	57	59	61	63	65	67	69	71	
5' 0"	23	25	27	29	31	33	35	37	39	41	43	45	47	49	51	53	55	57	59	61	62	64	66	68	
5' 1"	23	25	26	28	30	32	34	36	38	40	42	43	45	47	49	51	53	55	57	59	60	62	64	66	
5' 2"	22	24	26	27	29	31	33	35	37	38	40	42	44	46	48	49	51	53	55	57	59	60	62	64	
5' 3"	21	23	25	27	28	30	32	34	35	37	39	41	43	44	46	48	50	51	53	55	57	58	60	62	
5' 4"	21	22	24	26	27	29	31	33	34	36	38	39	41	43	45	46	48	50	51	53	55	57	58	60	
5' 5"	20	22	23	25	27	28	30	32	33	35	37	38	40	42	43	45	47	48	50	52	53	55	57	58	
5' 6"	19	21	23	24	26	27	29	31	32	34	36	37	39	40	42	44	45	47	48	50	52	53	55	56	
5' 7"	19	20	22	23	25	27	28	30	31	33	34	36	38	39	41	42	44	45	47	49	50	52	53	55	
5' 8"	18	20	21	23	24	26	27	29	30	32	33	35	36	38	40	41	43	44	46	47	49	50	52	53	
5' 9"	18	19	21	22	24	25	27	28	30	31	32	34	35	37	38	40	41	43	44	46	47	49	50	52	
5' 10"	17	19	20	22	23	24	26	27	29	30	32	33	34	36	37	39	40	42	43	44	46	47	49	50	
5' 11"	17	18	20	21	22	24	25	26	28	29	31	32	33	35	36	38	39	40	42	43	45	46	47	49	
6' 0"	16	18	19	20	22	23	24	26	27	28	30	31	33	34	35	37	38	39	41	42	43	45	46	47	
6' 1"	16	17	18	20	21	22	24	25	26	28	29	30	32	33	34	36	37	38	40	41	42	44	45	46	
6' 2"	15	17	18	19	21	22	23	24	26	27	28	30	31	32	33	35	36	37	39	40	41	42	44	45	
6' 3"	15	16	17	19	20	21	22	24	25	26	27	29	30	31	32	34	35	36	37	39	40	41	42	44	
6' 4"	15	16	17	18	19	21	22	23	24	26	27	28	29	30	32	33	34	35	37	38	39	40	41	43	
6' 5"	14	15	17	18	19	20	21	23	24	25	26	27	28	30	31	32	33	34	36	37	38	39	40	42	
6' 6"	14	15	16	17	18	20	21	22	23	24	25	27	28	29	30	31	32	34	35	36	37	38	39	40	
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6' 9"	13	14	15	16	17	18	19	20	21	23	24	25	26	27	28	29	30	31	32	33	34	35	36	38	
6' 10"	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	35	36	37	

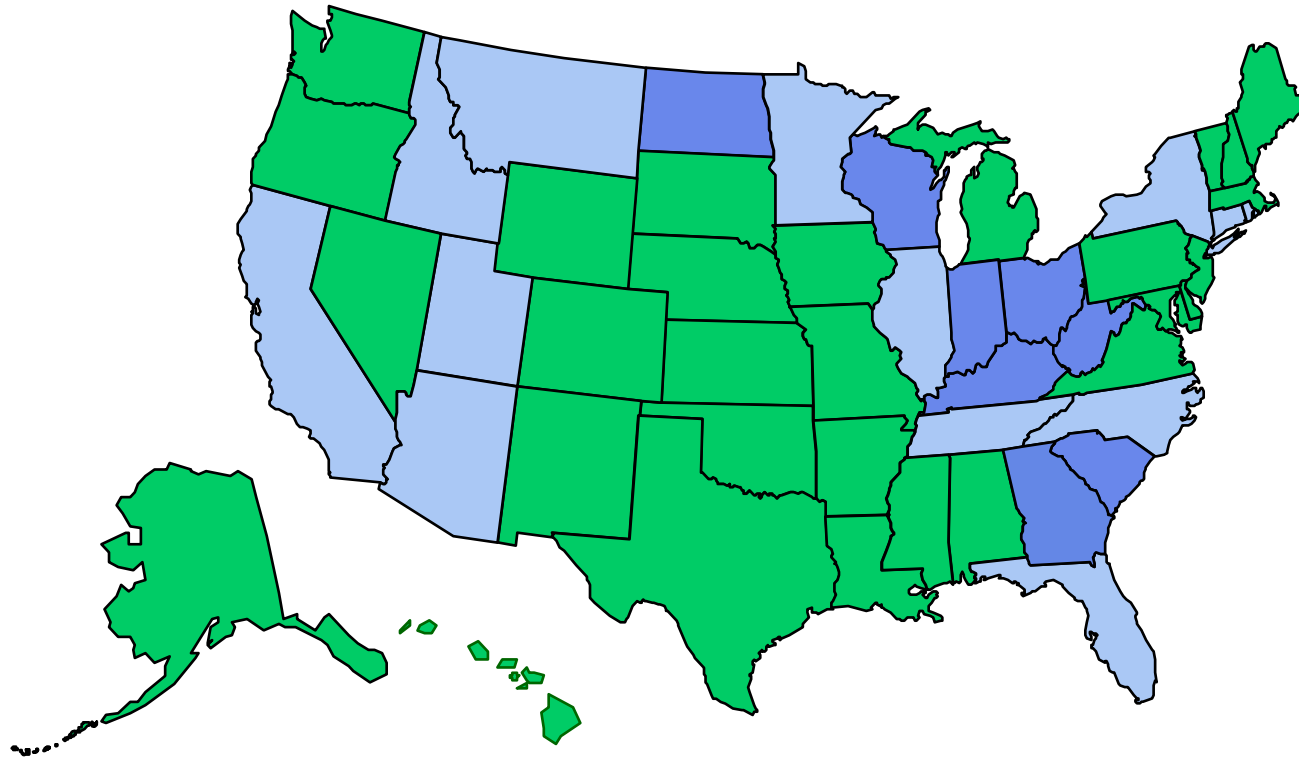
Less risk More risk

Underweight
 Low Risk
 Overweight
 High Risk with the medical diagnosis of obesity

Obesity Trends* Among U.S. Adults

BRFSS, 1985

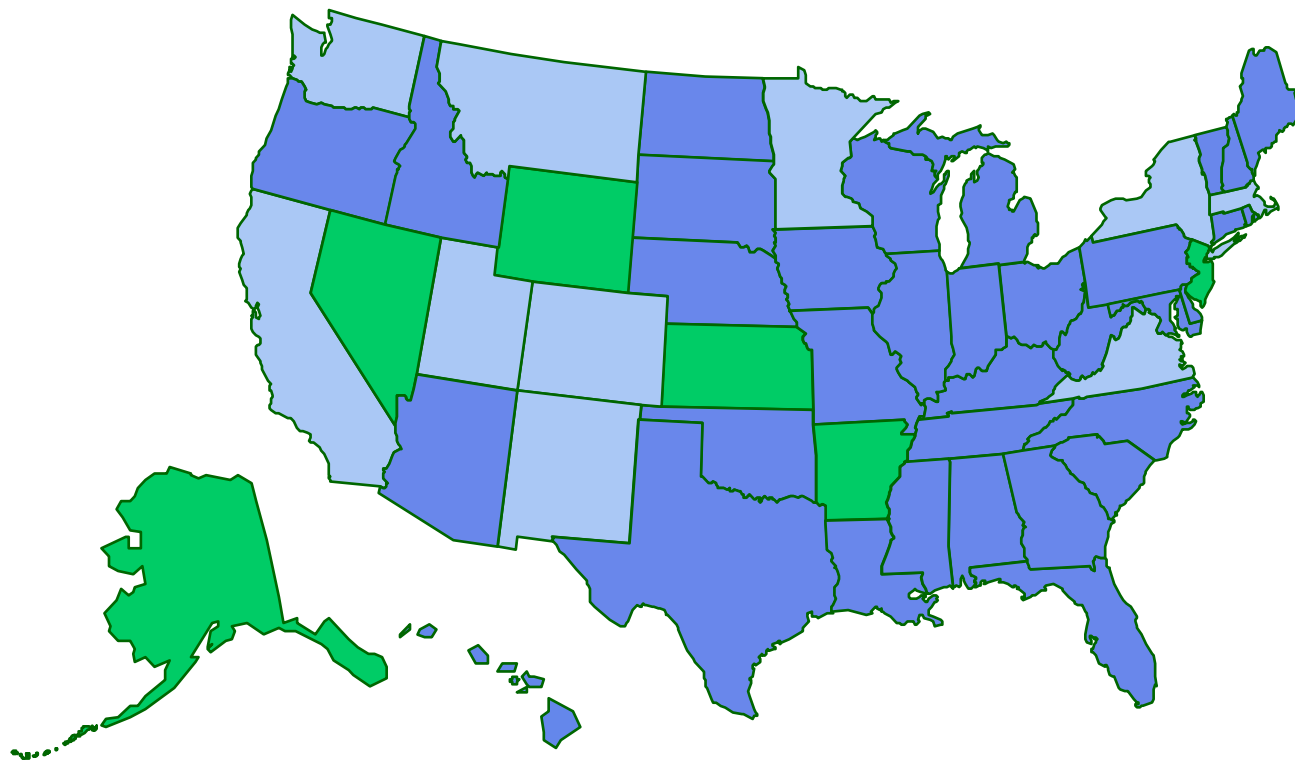
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

BRFSS, 1990

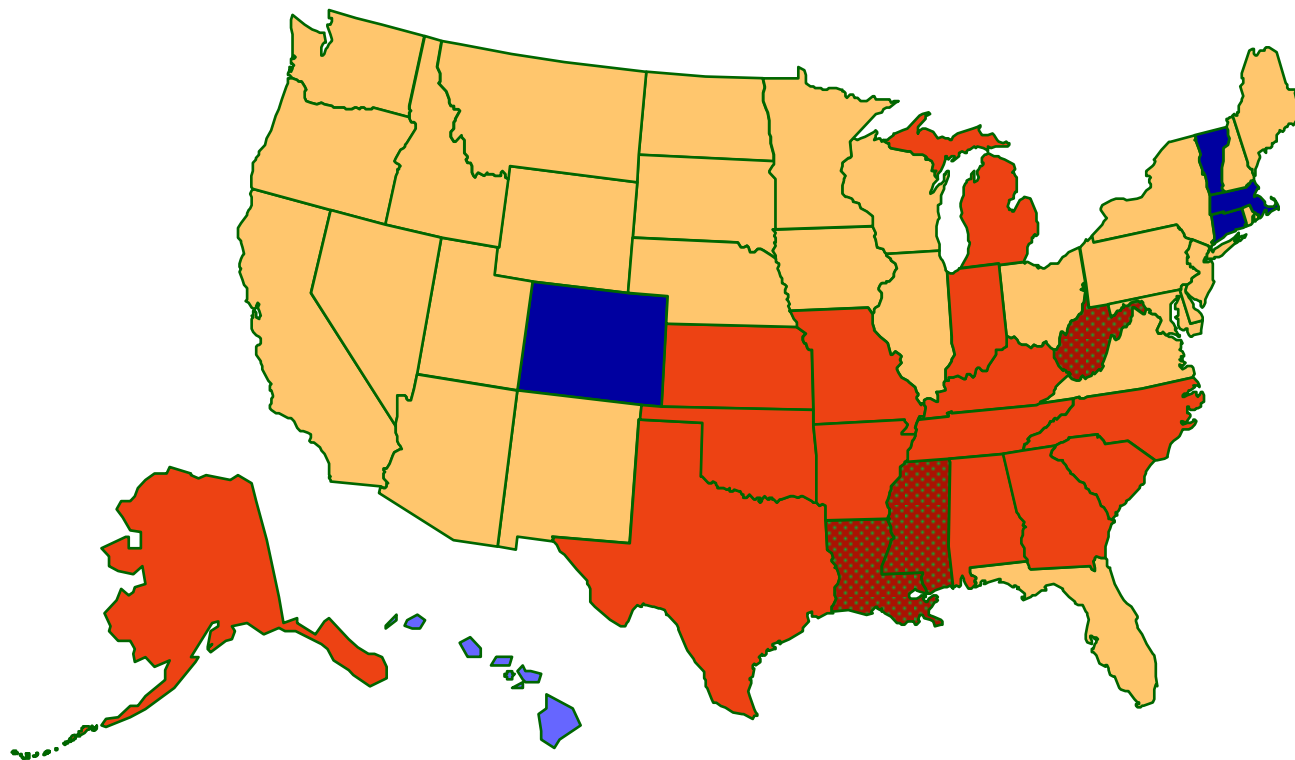
(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Obesity Trends* Among U.S. Adults

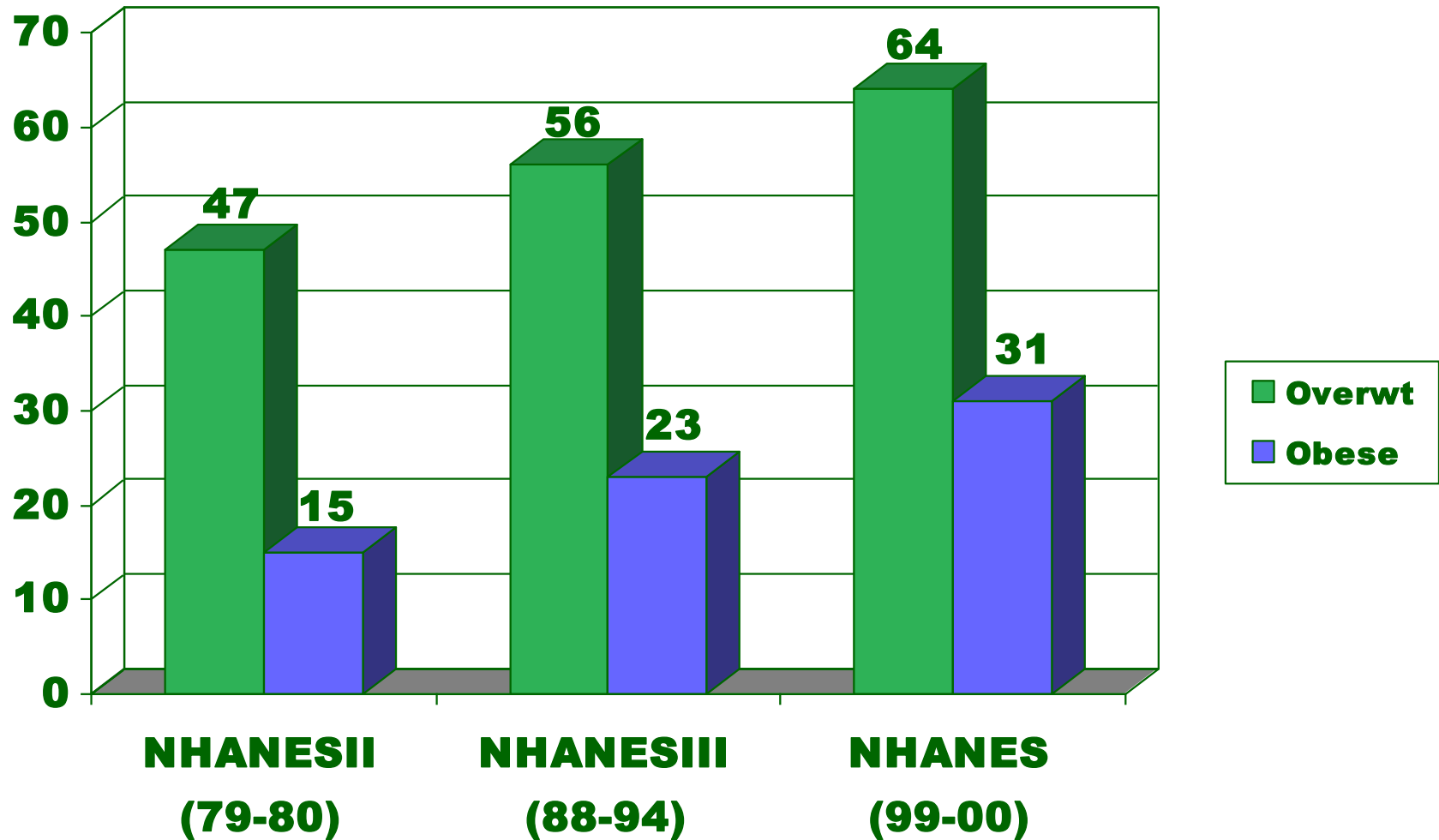
BRFSS, 2005

(*BMI ≥ 30 , or ~ 30 lbs. overweight for 5' 4" person)



Legend: No Data, <10%, 10%-14%, 15%-19%, 20%-24%, 25%-29%, $\geq 30\%$

Percent Overweight and Obese US Adults, Age 20-74





What has caused
this increase in
body weight in
America?

Nature or Nurture?

- Body weight is the result of genes, metabolism, behavior, environment, culture, and socioeconomic status
- The CDC reports that: “American society has become 'obesogenic,' characterized by environments that promote increased food intake, nonhealthful foods, and physical inactivity.”



Heredity or Habit?

- Genes regulate how our bodies capture, store, and release energy from food
- The genetic composition of the population does not change rapidly
- The large increase in obesity must reflect major changes in non-genetic factors

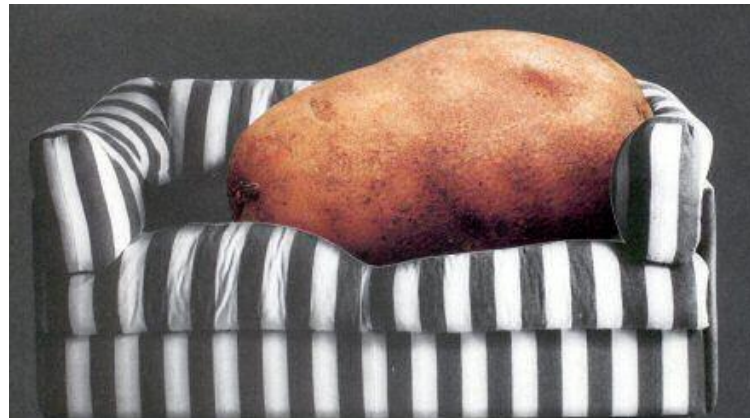


Hill, James O., and Trowbridge, Frederick L., *Pediatrics*.
1998

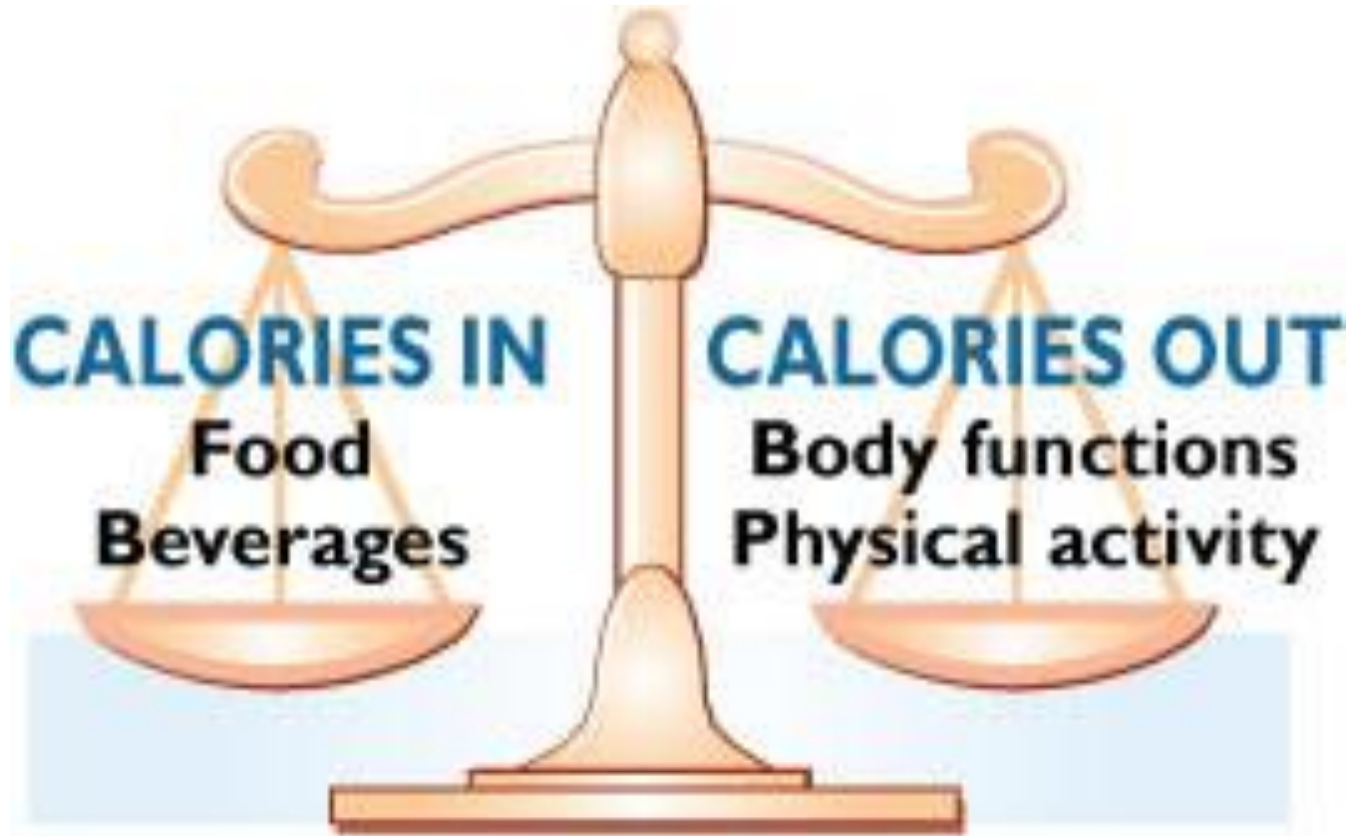
Americans Have C.O.E.D

- **Calorie Overload**
 - Processed foods layered and loaded with combinations of fat, sugar and salt
 - Portion sized that have doubled since the 1950's
- **Energy Expenditure Deficiency**
 - Sedentary lifestyle – work and home
 - Technology – mechanization, computers

Dr. David Allen, *GPS for Health*



Calorie Overload, Energy Expenditure Deficiency



Addicted to Junk Food


- Conditioned Hypereating - A willpower-sapping drive to eat high-fat, high-sugar foods even when not hungry
- Dopamine stimulation – Fat and sugar combinations light up the brain's dopamine pathway – its pleasure-sensing spot

Dr. Kessler, *The End of Overeating*



What is the Cost of Obesity to our Workforce and Society?





Obesity is the leading nutritional health problem facing Americans and the leading driver of health-care cost.

Louis Aronne, MD, Cornell Medical Center



Health Consequences

- Coronary heart disease
- Type 2 diabetes
- Cancers (endometrial, breast, and colon)
- Hypertension (high blood pressure)
- High cholesterol or high levels of triglycerides
- Stroke
- Liver and Gallbladder disease
- Sleep apnea and respiratory problems
- Osteoarthritis (a degeneration of cartilage and its underlying bone within a joint)
- Gynecological problems (abnormal menses, infertility)



The Cost of Obesity

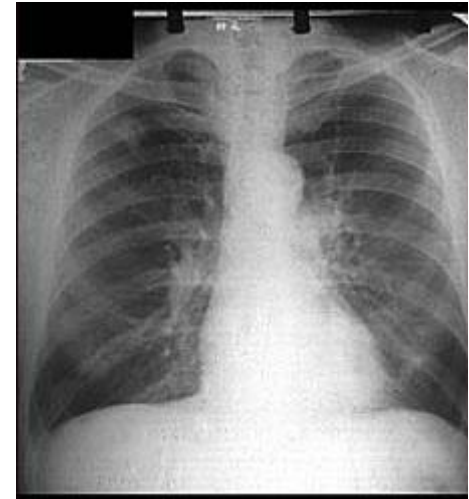
Obese employees cost employers \$45 billion a year in medical expenditures and work loss

- Medical expenses in 2006 were 42% higher (\$1,429) for obese employees
- Obese employees are 21% more likely to have one or more poor physical health days per month



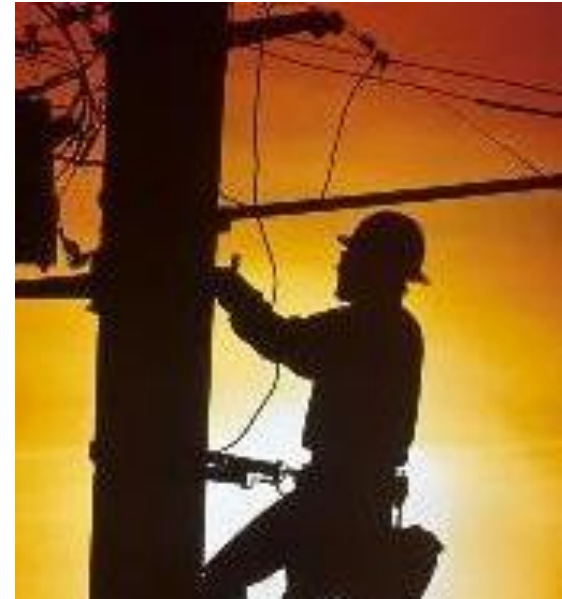
Obesity Affects Injury Risk and Productivity

- A NIOSH study suggest that being obese can lead to occupational health issues
 - Propensity to develop occupational asthma
 - Cardiovascular Disease
 - Disease from occupational neurotoxins
- A Johns Hopkins study published in the *American Journal of Epidemiology* suggested an increase in traumatic occupational injury for overweight and obese employees
 - Over 3 years, 29% of the 7,690 hourly workers studied were injured, 85% of those injured were overweight or obese



Challenges for the Utility Industry

- Standard PPE not adequate for the heaviest workers
- Ladders, aerial lifts and bucket trucks weight limits may not “fit” the workforce
- Heavier workers at greater risk for suspension trauma during falls
- Medical problems caused by obesity may prohibit qualification for medical card for Commercial Drivers License (CDL)



Conditions that restrict DOT Medical Card for CDL

- Hypertension
 - The Framingham Offspring Study concluded 78% of cases of hypertension in men and 64% in women were attributable to obesity
- Diabetes
 - Data from NHANES III indicated that two-thirds of adult men and women in the United States diagnosed with type 2 diabetes have a BMI of 27 kg/m² or greater

National Task Force on the Prevention and Treatment of Obesity, 2000



Obesity and Obstructive Sleep Apnea (OSA) Risk

- A new study confirms previous findings that checking drivers for obesity can help identify those with a high likelihood of obstructive sleep apnea (OSA)
- Medical conditions associated with OSA
 - Hypertension
 - Type 2 diabetes
 - Hypothyroidism

American Collage of Occupational and Environmental Medicine,
CDME, Spring 2009



Proposed OSA Regulation

- Obstructive Sleep Apnea – The Federal Motor Carrier Safety Administration (FMCSA) is deliberating whether to require sleep apnea screening for obese drivers
- FMCSA estimates 40% of all commercial drivers would need to be evaluated for OSA





What are the solutions to obesity and their costs in our American workforce?



Obesity Prevention and Intervention

Effective obesity prevention interventions require strategies that are multilevel in nature targeting:

- Individual level behavior change
- Policy change in organizational practices
- Environmental changes



Obesity in the Workplace: The Battle of the Bulge



- Workplace obesity has serious individual and corporate consequences
- Solutions must be systematic at each level of society
- Failure to address obesity will produce economic decline

A vertical strip on the left side of the slide features a glowing lightbulb and a glowing orb, both set against a green background.

Changing Weighty Habits: Programs That Work at Work

- Our panelist will share ideas about programs that have been effective in their workplaces
- We will save time at the end for questions

Carol Donnelly, President
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