

# Beer & Calories

**Dr Kathryn O'Sullivan**  
**Public Health Nutritionist PhD, BSc, Dip Diet**

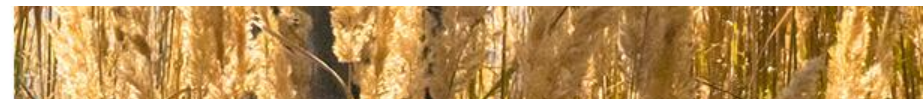
*Dr O'Sullivan Nutrition Consultancy Ltd, UK*



*Beer and Health*

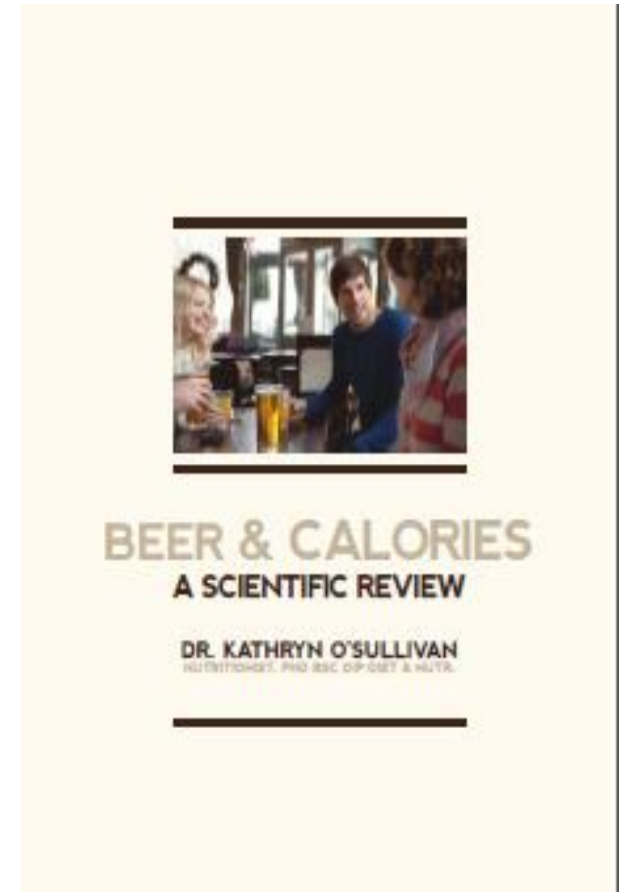
THE 7<sup>TH</sup> EUROPEAN

BEER AND HEALTH SYMPOSIUM



# Beer & calories.. *The beer belly myth*

Report commissioned by BBPA  
Published 2013



Beer and Health

# National & international press & radio, online, social media



## the drinks business

12th February, 2013 by Andy Young

A new report claims there is no scientific evidence to support the assertion that beer causes weight gain and has labelled the beer belly a myth.



The report called 'Beer & Calories: a scientific review' was written by nutritionist Dr Kathryn O'Sullivan.



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New report challenges the myth of the 'beer belly'

## Beer belly is myth, a nutritionist says

WASHINGTON - Agence France-Presse

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new approach  
WeightWatchers  
Online

**Beer DOESN'T give you a belly  
(well, any more than red wine or  
a packet of crisps)**

• Much-maligned drink is no worse for weight gain than



Health & Science

NEWS 19

## What the scientists are saying...

**in-like ancestor**  
danced a picture of a e that they believe was more ancestral of mammal species. man's existence is only fossil record, and it has obscure that it has never gained nickname. But as in the journal Science, real anatomical live fossils that central mammals and that 4,400 living species, from bat to the 190 some egg-laying mammals filled platypus or rearing study, scientists on of genetic and hich indicates that the within 200,000 to



massive amounts of wine has the same effect. Her research suggests that a standard glass of wine actually has 40 calories more than half a pint of beer.  
**Can your dog read your mind?**  
Dogs are much like the rest of us: if they're going to commit evil deeds, they prefer to do them when they think no one can see, reports The Independent. A study at the University of Portsmouth has found that dogs are more likely to steal food under the cover of darkness than when the lights are on, suggesting that they can understand a human's point of view. This may come as no surprise to dog owners, but it's the first time it has been tested by science. For the research, 28 dogs were presented with plans of food and forbidden from eating them. When the lights were off, the dogs were four times more likely to steal the

It's only a gut feeling, but beer isn't fattening

Tom Whipple Science Correspondent

Maybe the beer belly needs a new name. "Wine w A report into different drinks conclusive support the b



The British Beer and Pub Association has launched a micro-site to tackle the common misconceptions around beer and health. It comes as a new report by a nutritionist found no scientific evidence to support the belief that beer causes weight gain, challenging the 'beer belly' label.

The report 'Beer & calories: a scientific review' by Dr Kathryn O'Sullivan examines the latest scientific evidence and concludes that beer, when drunk in moderation, has "nutritional and wellbeing benefits which are at least similar to its fashionable European counterpart, wine".

It said: "Beer contains vitamins which can help you to maintain a well-balanced healthy diet, fibre to keep you regular, readily absorbed antioxidants and minerals such as silicon which may help to lower your risk of osteoporosis. Yet few people are aware of its health properties."

O'Sullivan added that a large glass of wine with an ABV of 13% to 14% could contain as many as 3.5 units, compared with just one unit in half a pint of ABV 3.6% beer.

Shine from YAHOO! CANADA



ZEENEWS.com



## Expert Challenges Beer Belly Notion

Posted on: Monday 11th February 2013 by Slimming.com

Tags: calories , diets , health , weight loss , appetite suppression , unhealthy diet , healthy balanced diet , fitness , calorie burn , healthy lifestyle



The notion of 'beer bellies' has been challenged as a leading nutritionist suggests that the nation's favourite drink actually provides numerous health benefits.



LOVE/SEX CELEB/NEWS BEAUTY/FASHION DIET/FITNESS FOOD/COCKTAILS CAREER/MONEY



Lager lovers rejoice: A just-released report shows that drinking beer on the regular won't necessarily give you a teltale belly.

According to a new report by the British Beer and Pub Association (which, of course, could be just a teensy bit biased), drinking a bottle of beer may keep you more svelte than tipping back a glass of wine. The findings show that replacing two large glasses of wine a day with two bottles of beer could save you more than 500 calories each week. And that amounts to nearly 60,000 calories a year.

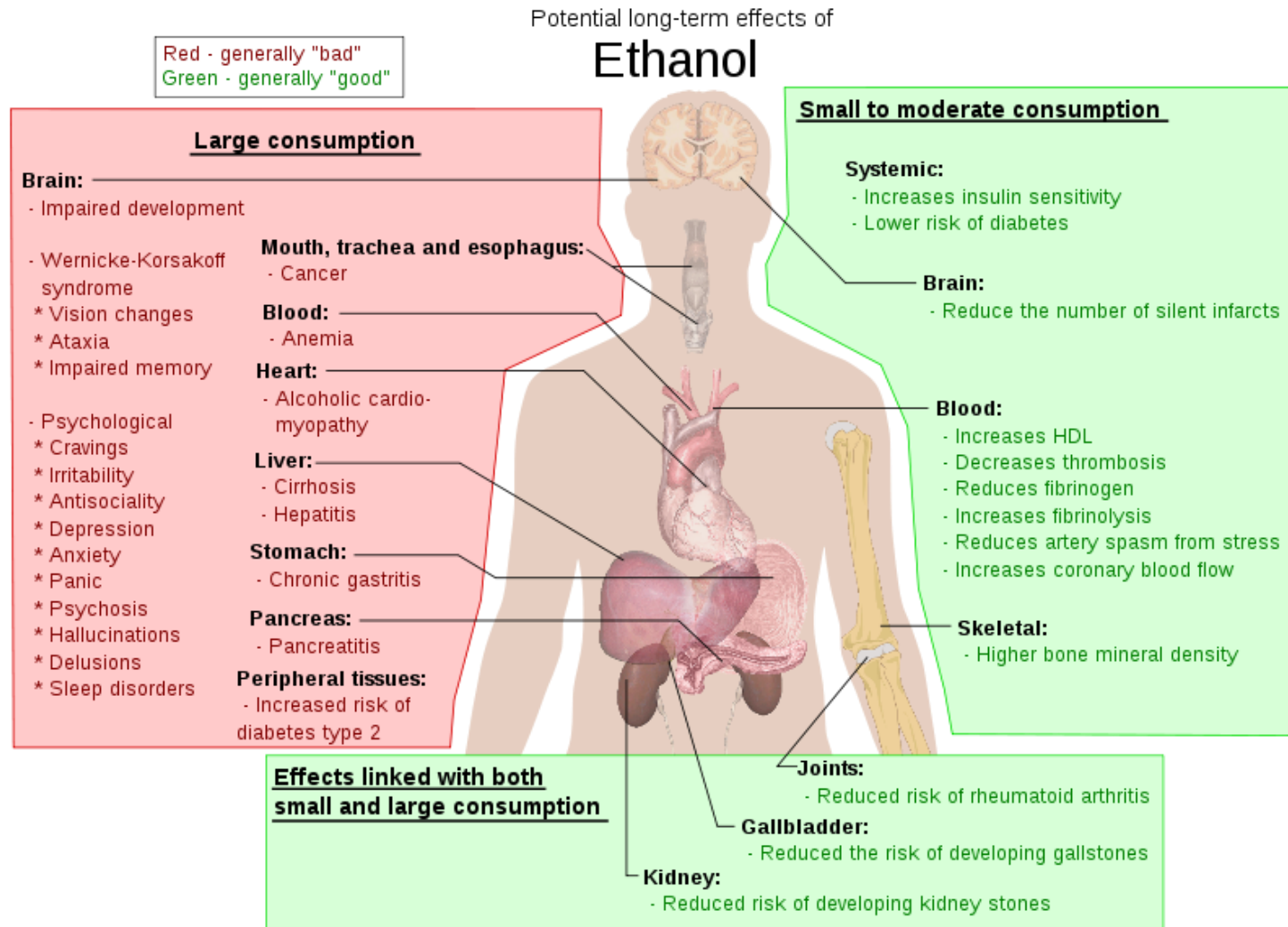
The reason? Not only does wine have more alcohol than beer (especially when compared to those lighter ales), but with wine glass sizes being enormous nowadays, it's easier to control your consumption by drinking from a bottle instead. Plus, beer isn't really all that bad for you, in moderation. It actually contains as many good-for-you ingredients as wine, including fiber and antioxidants, and is also known to help stave off osteoporosis.

Naturally, these findings don't mean that you should go out and do a keg stand. But, if you prefer an amber, blonde, or IPA to a glass of vino, rest-assured that you won't necessarily get a tummy to show for it.



Beer and Health

# Alcohol & Health - MODERATION





# Alcohol & health



- Wine health halo
- French paradox
- Beer detrimental to health
- BEER BELLY?



**Mail**Online



**The cardiologist who prescribes RED WINE:  
Doctor claims two glasses a day can halve  
the risk of a heart attack**



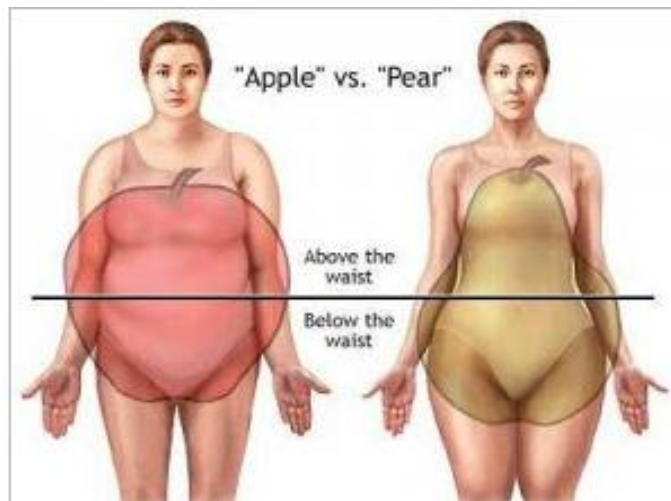
*Beer and Health*

# Abdominal obesity/adiposity

Increased waist circumference

Abdominal obesity/adiposity

risk factor for metabolic syndrome & heart disease (Alberti *et al.* 2009).

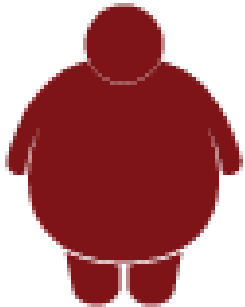


# Beer & weight: fact or fallacy?

In the WHO/European Region



**over 50%**  
of people are  
**overweight**  
or **obese**



**over 20%**  
of people are  
**obese**

## Perception

Beer “high in empty calories”

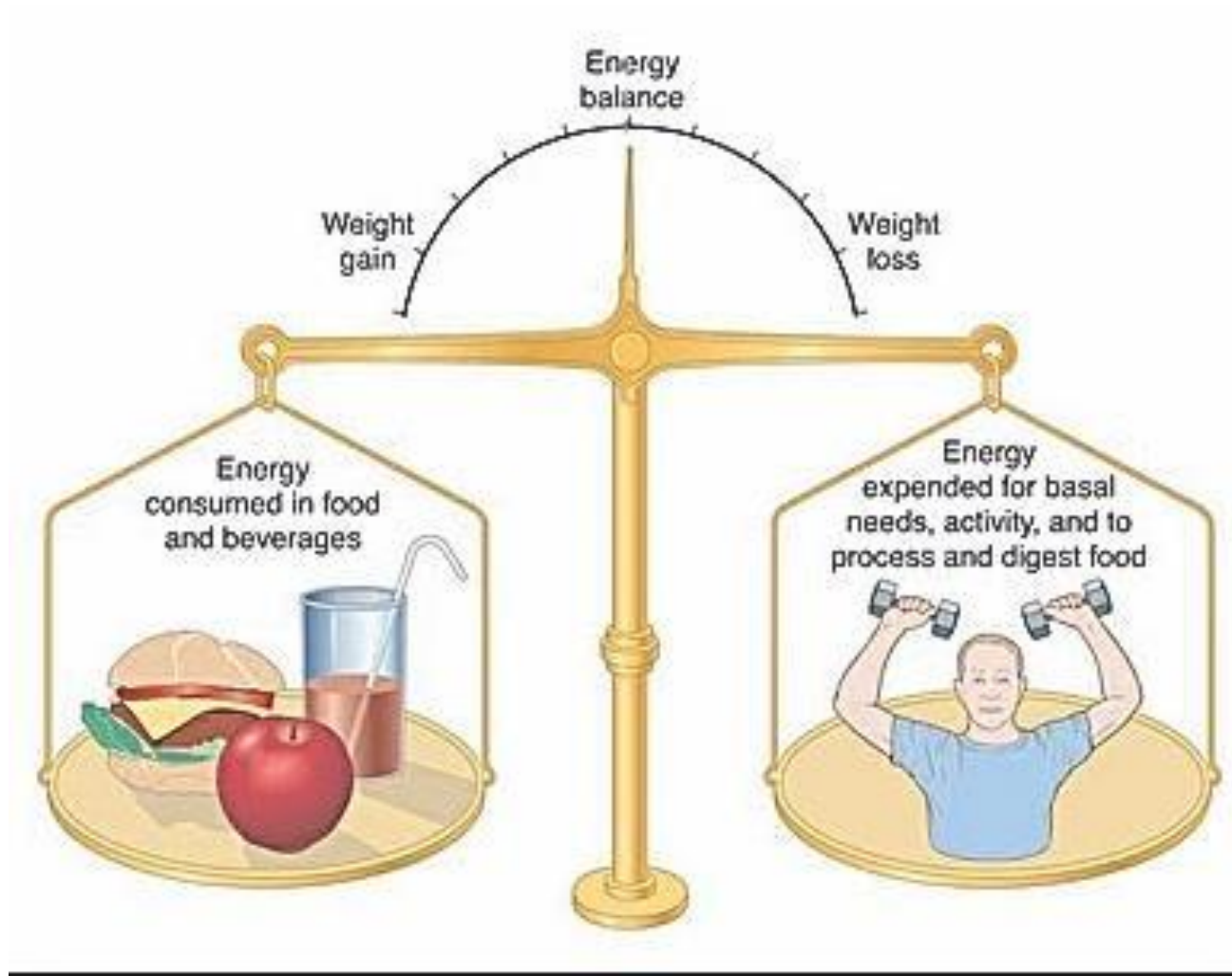
“Beer drinkers obese”

“Beer belly”

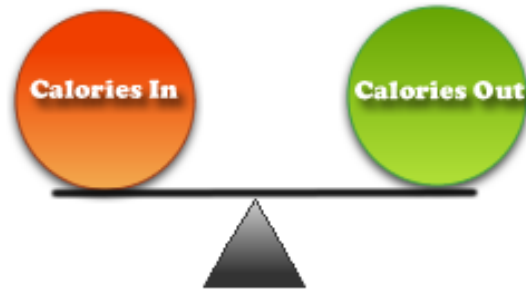
Beer in weight control



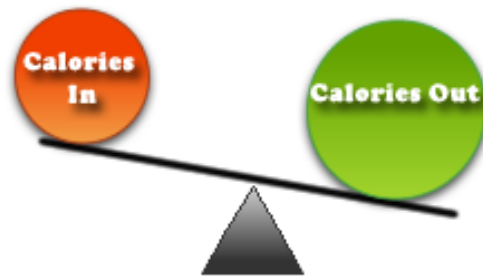
# Energy equation



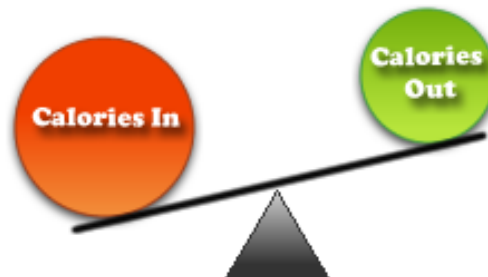




**Weight Maintained**  
**Isocaloric Balance**  
Energy In = Energy Out



**Weight Loss**  
**Negative Caloric Balance**  
Energy In < Energy Out



**Weight Gain**  
**Positive Caloric Balance**  
Energy In > Energy Out



# Beer Belly- myth or fact?

**Does beer intake increase the risk of**

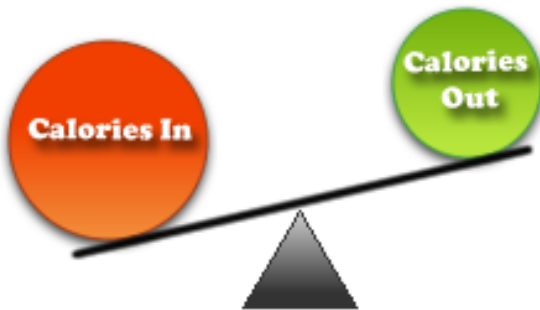
- Overweight/obesity?
- Abdominal obesity?



# Effect of beer on BMI (body fatness)

Observational & experimental studies

↑↑ Beer (and ANY alcohol) → ↑ BMI  
..but moderate → normal or ↓ BMI



Alcohol amount not type

Positive energy balance → obesity

Alcohol calorie compensation

Personality, lifestyle factors, smoking, education



# Beer & abdominal obesity

Prospective studies

Waist hip circumference (WHC)

Excess beer → ↑WHC (similar for wine)

Meta-analysis moderate beer ~~→~~ abdominal obesity



Alcohol amount not type

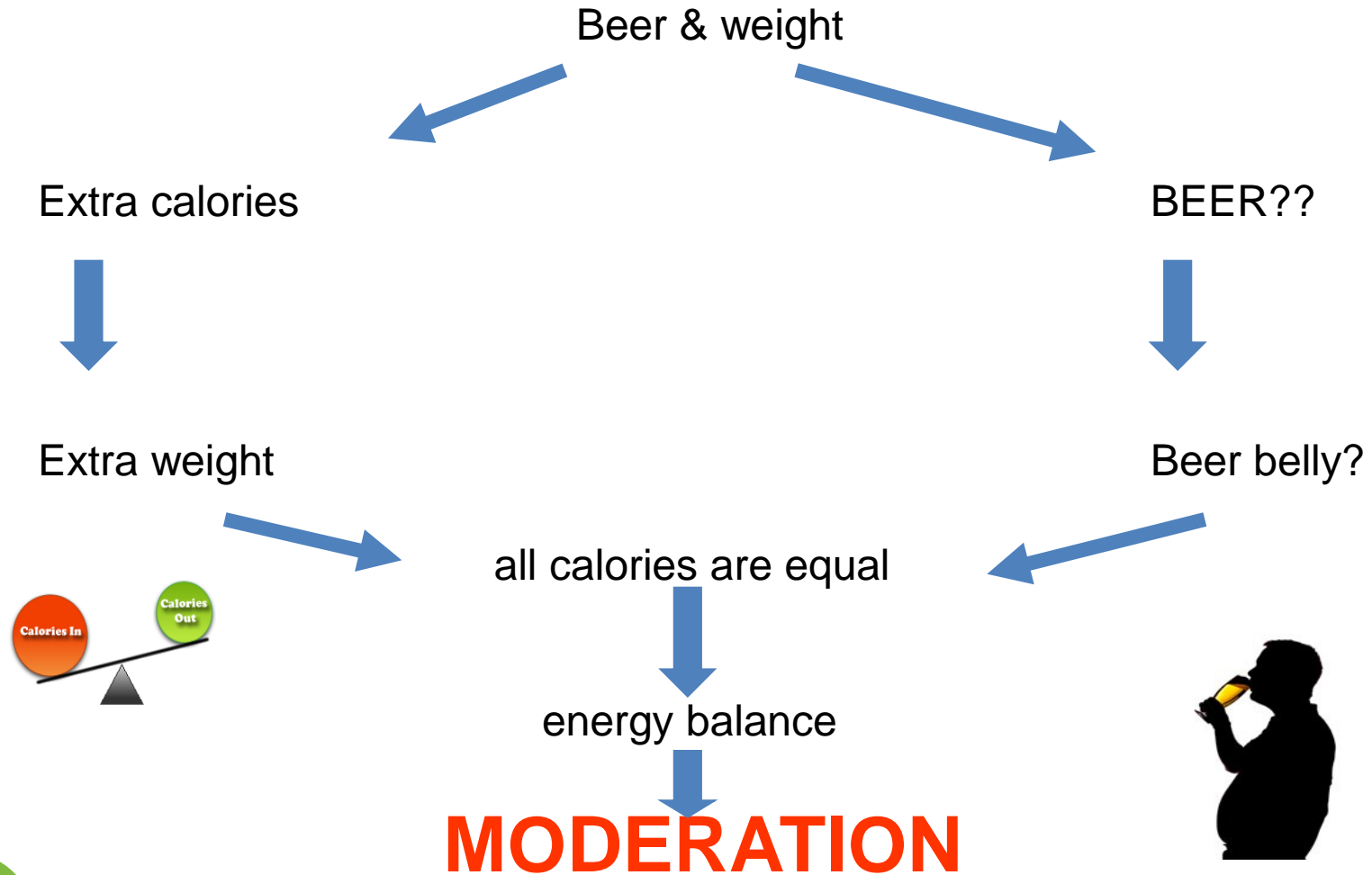
*<30g alcohol not associated with  
Inc WHR, but > 48g/d is*

Positive energy balance

variation in fat patterning



# Evidence- energy equation





# Excess calories cause weight gain



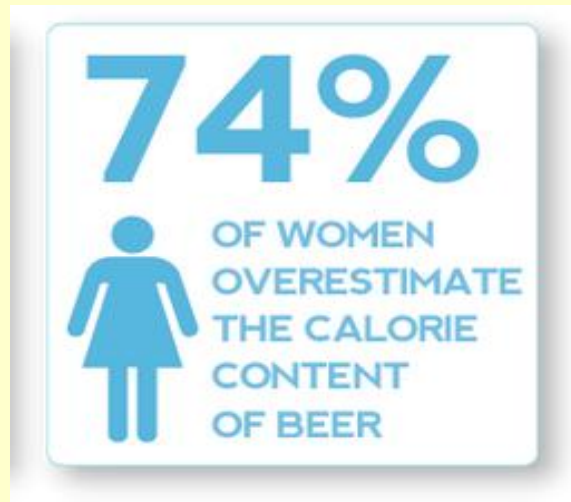
Moderate alcohol/beer consumption doesn't cause weight gain if energy balance maintained

WHR increases with weight gain is a **consequence of excess calories** not calorie type

*".... development of "beer bellies" within a population is the result of natural variation in fat patterning rather than any link with drinking beer"*



# Public need to understand alcohol units AND calories!



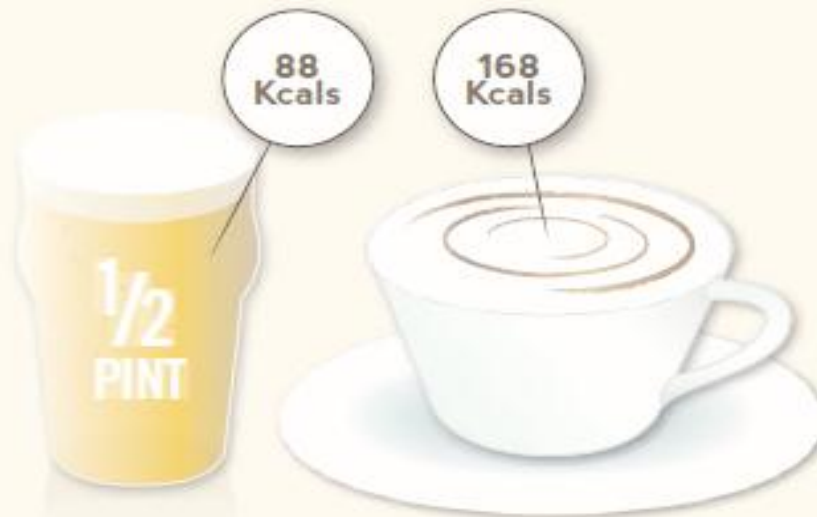
# Beer & calories

## calories/g

protein = 4  
carbohydrate = 4  
Fats = 9  
Alcohol = 7

### BEER HAS LESS CALORIES THAN WINE:

A half pint (284mls) of bitter (ABV 3.8%)	= 90 calories
A 330ml bottle of lager (ABV 4%)	= 112 calories
A 175ml glass of red wine (ABV 13%)	= 139 calories
A 175ml glass of white wine (ABV 11.8%)	= 130 calories



**A HALF PINT OF BEER PROVIDES FEWER CALORIES THAN A TALL CAPPUCCINO**



# Not empty calories Beer: source of nutrients

**% contribution of beer and lager to UK diet for vitamins and minerals**

†

Micronutrient	Men	Women
Niacin	10%	6%
Riboflavin	7-9%	3%
Vitamin B6	10-16%	1-3%
Folate	8-15%	1-6%
Phosphorus	4-6%	1%
Magnesium	9-12%	1-4%
Potassium	5-6%	1-2%
Iodine	12-19%	1-8%

From Henderson *et al.* (2003)



# Beer has health benefits in MODERATION



## Blood pressure

80,000 US women followed for 8 years found risk of hypertension was **14%** lower in women who had moderate alcohol intakes compared to non drinkers *(Thadhani et al 2002)*.

## Diabetes

38,000 US men  
when men who rarely drank beer increased their consumption to moderate levels of 1-2 beers a day, after a 4 year period their risk of type 2 diabetes dropped by **25%** *(Joosten 2010)*.

## Bone Health

moderate consumption of beer  
can protect bone mineral density  
*(Tucker et al 2009)*.

## Heart Disease

31% reduction in heart disease risk  
associated with daily pint of beer *(Costanzo et al 2011)*





# Beer- moderate alcohol & calorie intake

Glass size

Accompanying food

Alcohol strength equates to calories

Lower in alcohol than wine

Single serving units

Range of alcohol strengths

Refreshing/thirst quench



# Summary.....

- Beer is not “empty calories”
- Moderate consumption does not cause weight gain or “beer belly”
- Beer lower calorie value than other alcoholic beverages
- Positive energy balance & calorie compensation
- **MODERATION!**



# Media are interested in facts

## MailOnline



### Mine's a pint: Full of vitamins, high in fibre, low on sugar and good for your hair - the benefits of beer

- Beer is being hailed for its health benefits and vitamin levels
- Research suggests drinking beer might help prevent Alzheimer's
- Hops have 'aphrodisiac-like qualities' and could balance hormones
- Contains minerals including phosphorus, iodine, magnesium and potassium

#### A VITAMIN-PACKED PINT

'If you analysed beer you would be amazed at how many super-nutrients there are in it,' says Dr Stephan Domeniq, medical director of The

#### BANISH THE BELLY

While high in vitamins, beer is actually low in sugar, high levels of which have been linked to diabetes and obesity.

While a can of Coke contains seven teaspoons and an orange juice six, half a pint of beer contains just over one.

'Compared with soft drinks, it will give less of a blood sugar spike,' says nutritionist Dr Kathryn O'Sullivan, who last year carried out a scientific review of beer. 'Beer is about 93 per cent water so it's quite hydrating.'



Alamy

+3

Healthy pint: Beer is rich in calcium so could benefit your bones, and full of minerals and vitamins



Beer and Health