

Body composition measures

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What is obesity?

Obesity is a condition in which fat stores are enlarged to an extent which impairs health

page 528 Garrow JS. Obesity in Human Nutrition and Dietetics 10th edition Eds London, Churchill Livingstone, 2000.

How do we measure obesity?

1. Measures should be highly correlated with fat mass
2. Measures should be uncorrelated with height

Willett W. Nutritional Epidemiology

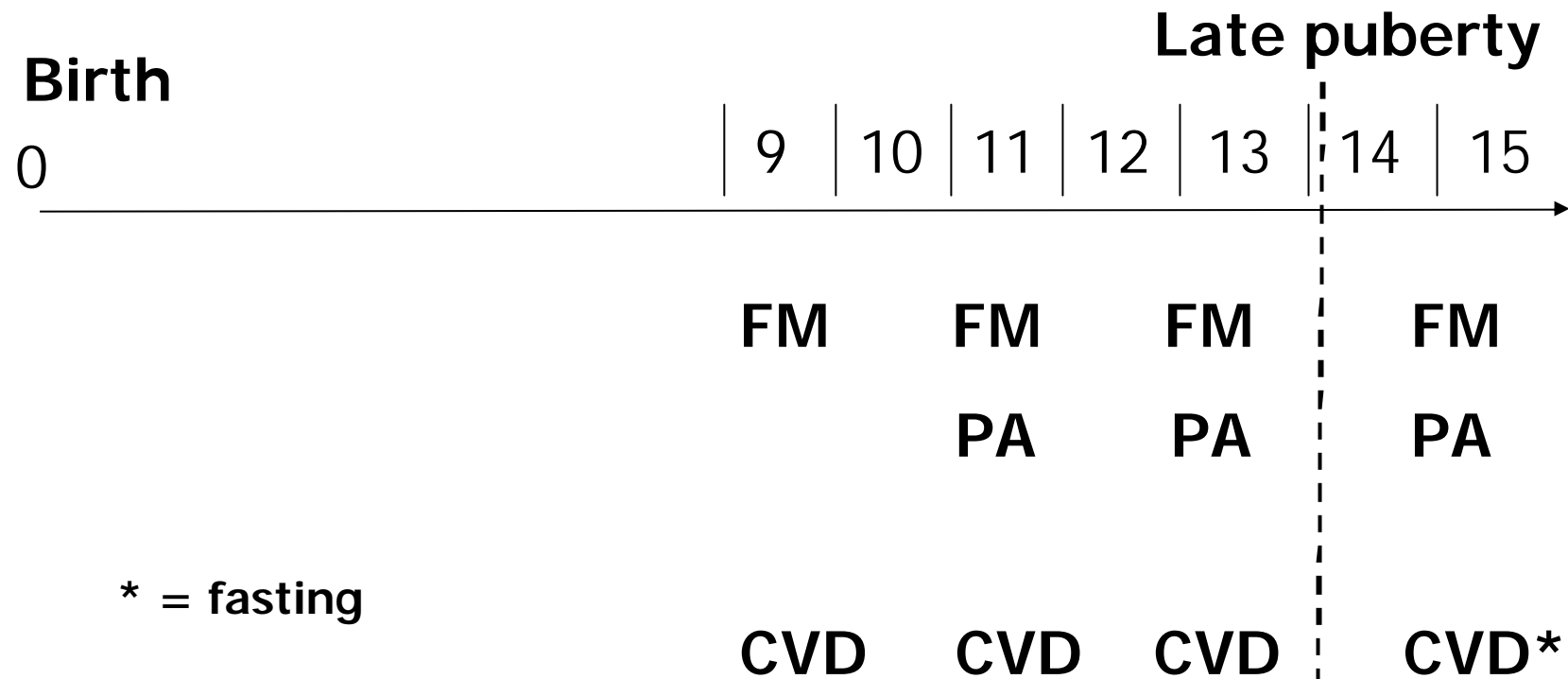
What causes obesity?

Obesity is caused by chronic energy imbalance

ALSPAC DATA

- **Self completion questionnaires**
- **Health records**
- **Biological samples**
- **Environmental monitoring**
- **Education records**
- **Hands on assessments**

Activity, body composition and CVD

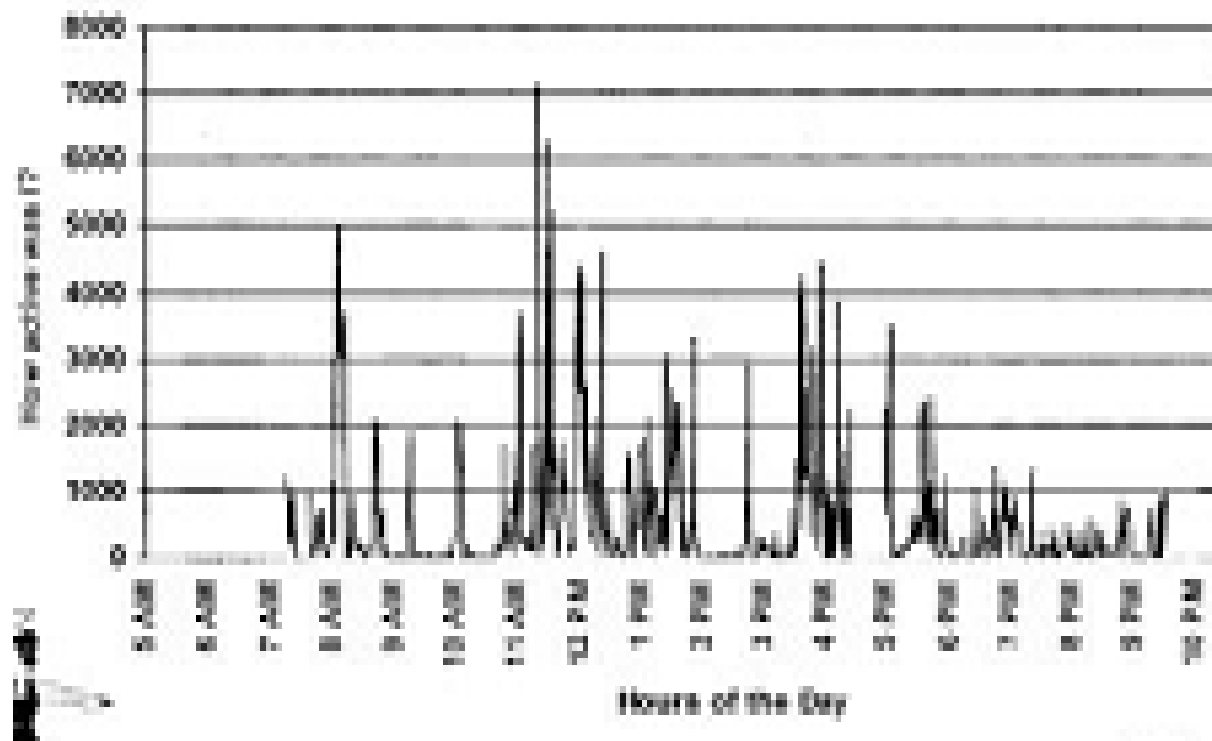


* = fasting

Close up of Actigraph uni-axial movement sensor

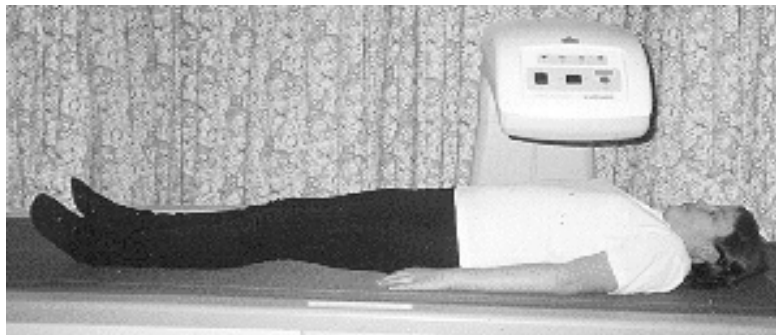


An example of the graphical output from the Actigraph (1 day's recording)

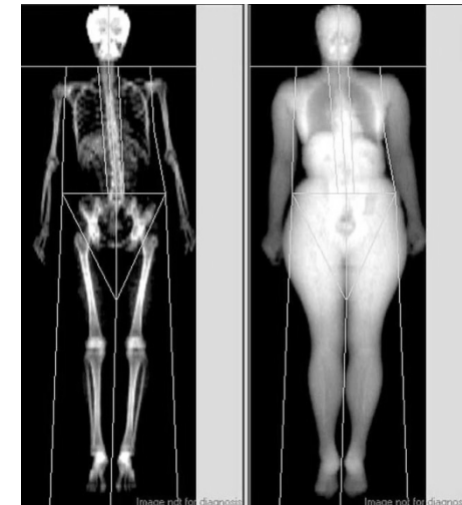


Serial DXA scans every two years from age 9+

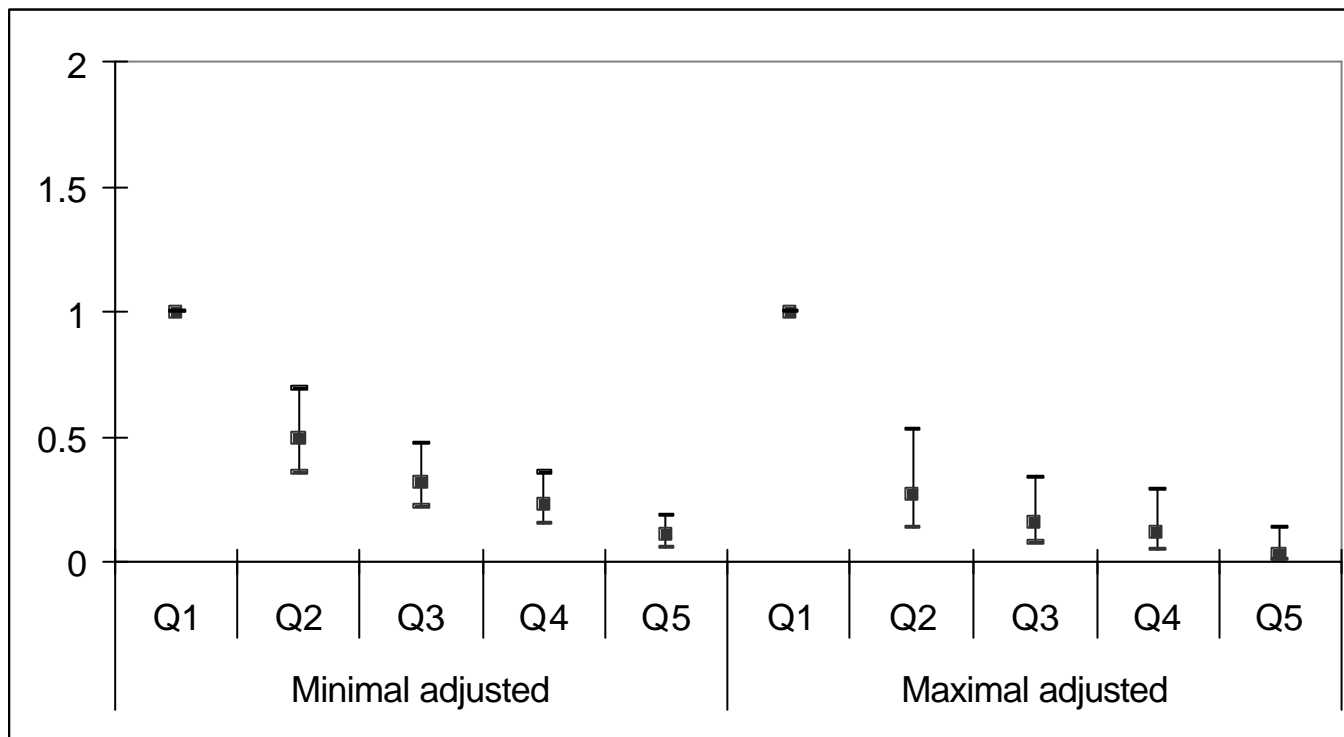
Child having total body DXA
scan on a Lunar Prodigy



Total Body Scan output
showing different sub-regions



Odds ratio for obesity by quintile of moderate and vigorous physical activity in boys



Odds ratio for obesity by quintile of moderate and vigorous physical activity in girls

