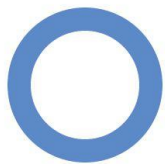




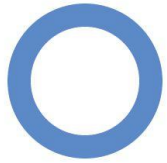
Adjusting insulin in clinical practice

Francesca Annan RD



Introduction

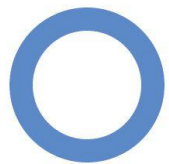
- Consider medication adjustment and the role of the diabetes dietitian
 - Why (or why not)
 - Knowledge and Competence
 - Governance Frameworks



Once upon a time

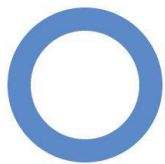
- Before non - medical prescribing for nurses
- Before Patient Group Directions
- Before working full time in Paediatric Diabetes
- Medication adjustment was part of my job roles
 - Insulin
 - Phosphate binders
 - PERT

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Patient Specific Direction to Advise

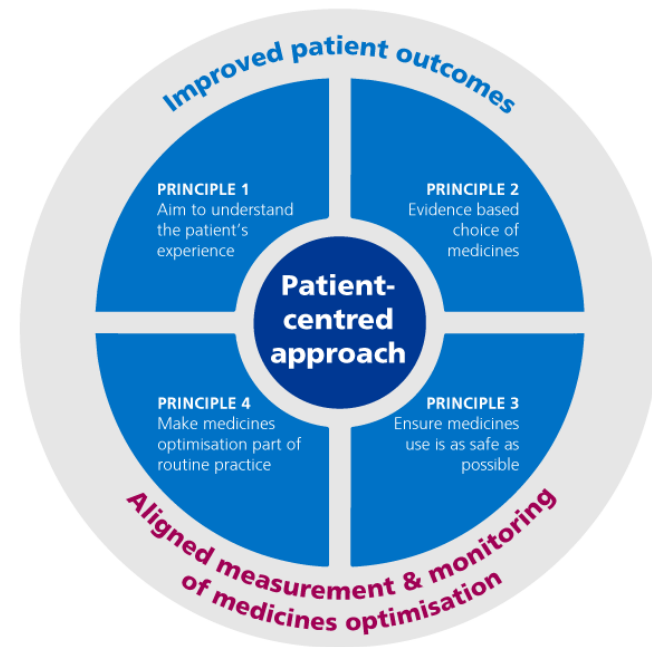
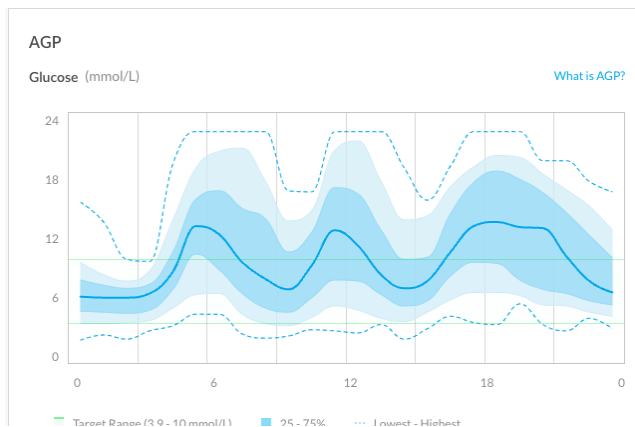
- Agreed between head of Dietetics, the responsible clinician and the Chief Pharmacist (Tony Nunn)

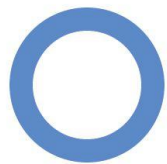


Medication adjustment why?

Aims of diabetes management?

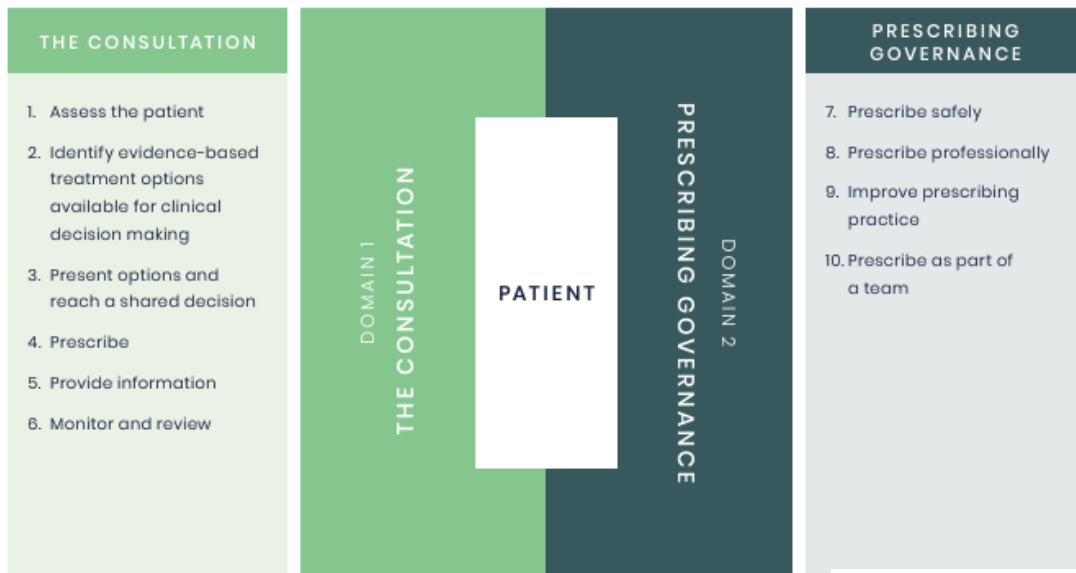
Medicines optimisation – whose responsibility is it?

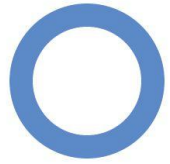




Competency Framework for Prescribers

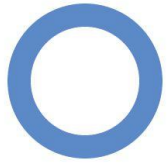
Figure 1:
The Competency Framework for all Prescribers





Knowledge and Competence

- What do you need to know for safe practice?
 - Pharmacology knowledge
 - Clinical knowledge



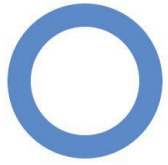
Pharmacology knowledge

- What is insulin?
- What does insulin do?
- What are the potential side effects
- Drug interactions?

Insulin promotes cellular uptake of glucose, particularly in muscle and adipose tissues, promotes energy storage via glycogenesis, opposes catabolism of energy stores, increases DNA replication and protein synthesis by stimulating amino acid uptake by liver, muscle and adipose tissue

.....

Insulin also promotes growth and is required for the actions of growth hormone.....



Glycaemic impact of food



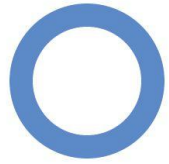
[This Photo](#) by Unknown Author is licensed under [CC BY-SA](#)

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University College London Hospitals

NHS Foundation Trust



Physical activity and health and insulin

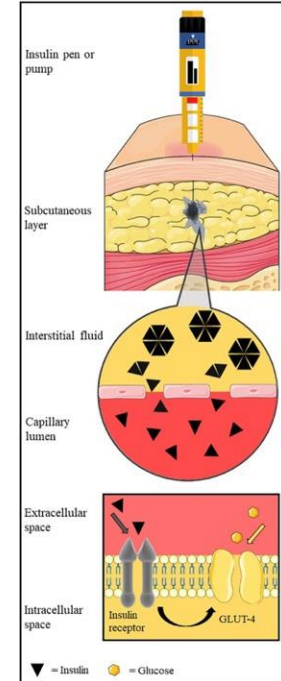
- Physical activity has long term health benefits but also has acute effects on glucose levels and insulin
- Impacts
 - Insulin absorption
 - Insulin distribution
 - Glucose uptake

MINI REVIEW article

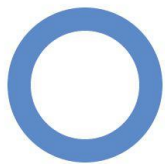
Front. Endocrinol., 21 October 2020 | <https://doi.org/10.3389/fendo.2020.573275>

Factors Influencing Insulin Absorption Around Exercise in Type 1 Diabetes

Jason P. Pitt^{1*}, Olivia M. McCarthy¹, Thomas Hoeg-Jensen², Benjamin M. Wellman¹ and Richard M. Bracken¹

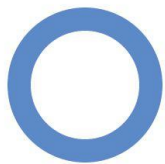


Rest	Acute exercise	Chronic exercise
Insulin analogue type; Needle length; Technique; Region.	Exercise type; Duration; Intensity; Proximity to working muscle.	Potentially reduced total daily dose.
Subcutis thickness; Temperature.	Increased capillary distribution and vasodilation; Temperature; Contractile massage-like effect.	Reduced adiposity; Capillary angiogenesis; Potential efficient temperature response.
Basal or post-prandial adipose tissue blood flow.	Increased blood flow.	Lower cardiac output for given submaximal work.
Insulin sensitivity status.	Exercise-induced insulin-independent GLUT-4 translocation.	Improved insulin sensitivity.



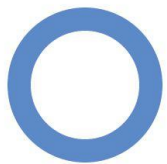
Governance frameworks

- Adjusting a prescribed medication – agreement of the responsible clinician/s
- Medicines management agreement
- Written authority to adjust medication with a clear framework



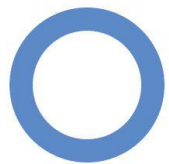
Governance frameworks

- Is it in your job description?
- Do you need indemnity insurance or are you covered by vicarious liability?
- Do you have appropriate clinical supervision and support

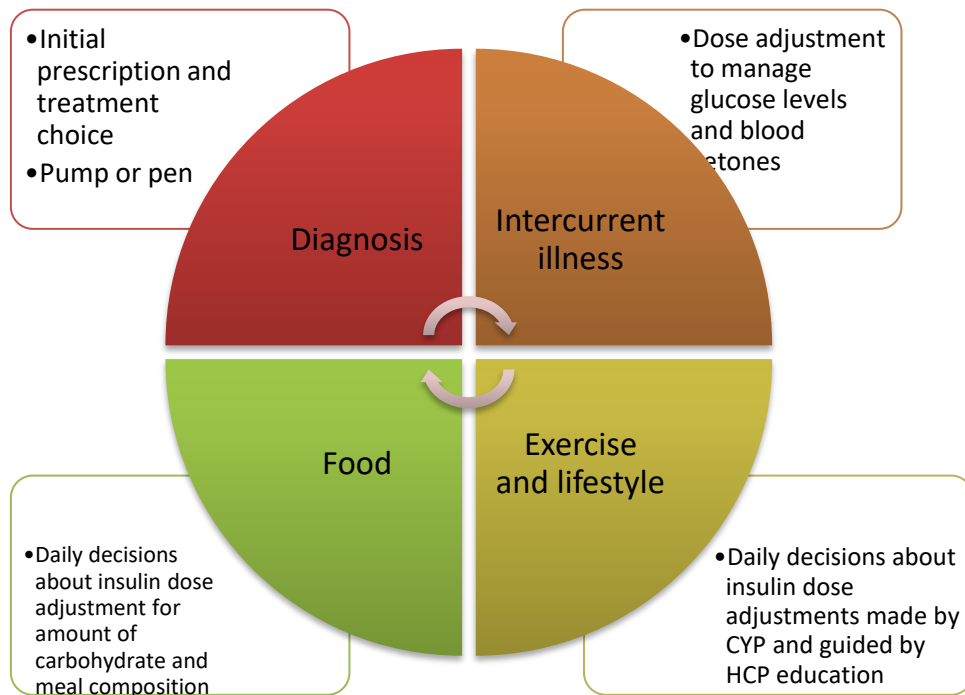


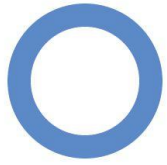
Insulin adjustment guidelines

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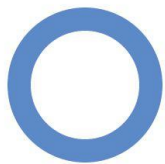
Insulin adjustment guidelines





Don't forget these





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