TYPE 1 DIABETES IN PRIMARY CARE

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Learning Outcomes

- Difference between Type 1 and Type 2 diabetes
- Ensuring correct diagnosis
- Annual Review of Type 1 diabetes
- Practical management of Type 1 diabetes in primary care
- Freestyle Libre and Primary Care

Type 1 and Type 2 diabetes are different

- *Type 1*
  - Autoimmune
  - Destruction of Beta cells in the pancreas
  - Need insulin
  - Confirmed with positive antibodies (GAD, IA2 & ZnT8)
- *Type 2*
  - Insulin resistance
  - Still have beta cell function
  - Strong family history
  - Risk factors include obesity, ethnicity, age, family history, lifestyle
  - Initially managed with diet/lifestyle interventions, medication and sometimes insulin therapy

Diagnosis of Type 1 diabetes

(NICE, Type 1 Diabetes in Adults, 2011)

- Only accounts for 5-10% of the diabetes population
- Diagnose type 1 diabetes on clinical grounds presenting with hyperglycaemia and (usually) sudden onset of symptoms:
  - ketosis
  - rapid weight loss
  - age of onset below 50 years
  - BMI below 25 kg/m^2
  - personal and/or family history of autoimmune disease.
- Do not discount a diagnosis of type 1 diabetes if an adult presents with a BMI of 25 kg/m^2 or above or is aged 50 years or above.
  - If in doubt, contact the secondary care diabetes team (via usual pathways) consider diabetes-specific autoantibodies
- HbA1c cannot be used to diagnose
  - But should still be done at diagnosis as a baseline

What else should be considered in Type 1?

- Autoimmune thyroid disease and coeliac disease common in T1D
- Also often strong family history of autoimmunity

Type 1 and Primary Care

- Those working in Primary Care, who are not diabetes specialists, should refer to specialist teams to provide:
  - informed, expert support, education and training for insulin users
  - a range of other more conventional biomedical services and interventions. (NICE, 2015)
- NICE (2015) recognises that not all HCP's are familiar with managing and supporting those with Type 1 diabetes – they may not be able to acquire or maintain those specialist skills

Primary Care Role in Type 1 diabetes

- People with Type 1 diabetes still need contact their with GP and Practice Nurse
  - They will often be the first port of call for non-diabetes related health questions
- Annual Review (QoF)
  - Don’t presume that these are being done elsewhere!
  - An appointment with secondary teams will not include an Annual Review
  - Remember the 9 key care processes – HbA1c, Blood Pressure, Cholesterol, Eye Screening, Foot Examination, GFR/creatinine, ACR, Weight, smoking status

Annual Review

- HbA1c
  - target 48mmol (NICE, 2015) but agree an individulaised target, respecting their lifestyle, occupations and fear of hypoglycaemia
- Blood Pressure
  - 135/85 (130/80 if albuminuria or 2 or more features of insulin resistance)
- Cholesterol and lipids
- Retinal screening – ask if they have attended/refer
- Foot Checks
  - Encourage self checks as well
- Kidney function
- Diet & Lifestyle (weight/BMI)
- Smoking Advice

What else is important?

- Injection technique
- Sick Day Rule’ discussion
- Driving Advice
- Hypoglycaemia discussion
- Pre-Conceptual Care
- NICE (2015) also recommend measure thyroid-stimulating hormone (TSH) levels in those with Type 1 diabetes at each annual review

Injection Technique

- Should be checked at least yearly
- Check for evidence of lipohypertrophy, use of needles, type of needles and injection technique, sharps disposal
- Ask:
    - Where do you usually inject?
    - Do you change the needle every time?
    - What size needle do you use?
    - Where do you dispose of the needle?
- Rotation of sites usually just means from side to side
- Lipohypertrophy is a major factor in those with erratic blood glucose levels

Sick Day Rules

- Diabetic Ketoacidosis – know the risk:
  - Intercurrent illness
  - Omitting insulin doses (particularly basal)
  - Pregnancy (often euglycaemia but positive blood ketones) – don't assume that vomiting in women with Type 1 diabetes is morning sickness
- Patients who have Type 1 diabetes should have blood ketone testing strips
  - Advise on the 'traffic light' system for management of ketones
  - Below 0.6mol – normal blood ketone levels
  - 0.6 – 1.4mmol – more ketones than normal, retest within 4hrs
  - 1.6 – 3.0mmol – high levels of ketones, contact healthcare team
  - Above 3.0mmol – dangerous levels, advise A&E

Driving advice

- There is a legal requirement for people with Type 1 diabetes to test their blood glucose (or scan if using Freestyle Libre) before driving (NICE, 2015)
- They should be ‘five to drive’
  - testing within 2hrs of driving and every 2hrs whilst driving
- If using Freestyle Libre, and it suggests a low reading or a hypo, they must still use blood glucose monitoring
- They must treat their hypo and then wait 45 minutes before driving
- The DVLA will only renew their licence is they are satisfied that they have:
  - Adequate awareness of hypoglycaemia
  - No more than 1 episode of severe hypoglycaemia whilst awake in past 12month
  - Practice appropriate glucose monitoring
  - Not regarded as a likely risk to the public while driving
  - Meets the visual standards

Hypoglycaemia

- Assess awareness of hypoglycaemia at each annual review
- Use the Gold Score and ask:
  - About symptoms of hypo
  - Awareness of those symptoms
  - How many moderate hypoglycaemic episodes
  - How many severe hypoglycaemic episodes
  - In the last month, how many of the readings have been below 4mmol (with or without symptoms)
  - How low does your blood glucose have to be before you get symptoms?
  - To what extent (by symptoms) can you tell that your blood glucose is low?
- Advise on treatment of hypoglycaemia
  - fast acting carbohydrate (15-20g) followed up by long acting carbohydrate
- Ensure family members are aware of actions in severe hypo

Pre-Conceptual Advice

- Not necessarily ‘formal’ advice but should be discussed at every opportunity
- Ask about contraception
    - Advise that they can use oral contraceptives (if there are no standard contraindications to their use).
- Even if not actively planning a pregnancy, explain the importance of good blood glucose control before conception (and throughout pregnancy) will reduce the risk of miscarriage, congenital malformation, stillbirth and neonatal death (NICE, 2011)
- Basic information on how diabetes affects pregnancy and vice versa

‘Complex’ needs of Type 1 diabetes

- More of the complex training and education is within a specialist community service or secondary care
- Carbohydrate counting
    - Insulin and CHO ratio calculations
- Technology support
    - Knowledge of CGM, Libre and pumps
- Knowledge of Insulin regimens and profiles
    - Including new insulins coming to the market
- Knowledge of activity/exercise on insulin
- Formal Pre-conceptual advice

Freestyle Libre

- Only available to those with Type 1 diabetes
- Criteria and contract discussed with secondary care team, or Community Specialist Teams (depending on area)
- Encourage those who are interested to research Freestyle Libre:

https://www.freestylelibre.co.uk/libre/

- Primary Care staff should have a basic understanding of the Freestyle Libre, how to prescribe it and how to interpret basic data at annual review – link for training:

https://freestylediabetes.co.uk/health-care-professionals

Summary

- Type 1 diabetes is a complex condition to support – don’t be afraid of asking for help
- People with Type 1 diabetes still need the support of their GP and Practice Nurse
- Recognise that Type 1 diabetes may complicate other ‘minor’ ailments
- Remember – these people live with their diabetes 365 days a year – listen to them, understand their challenges and support them in managing their Type 1 diabetes