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TYPE 2 DIABETES IN CHILDREN & YOUNG PEOPLE

PRACTICAL DIETARY APPROACHES

KATE HENSON, RD

Webinar key messages summarised for you.

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TYPE 2 DIABETES IN CHILDREN & YOUNG PEOPLE

TYPE 2 DIABETES (T2D) TYPICALLY OCCURS IN ADULTHOOD, BUT MORE CHILDREN AND YOUNG PEOPLE ARE BEING DIAGNOSED.
FIGURES SUGGEST 7,000 CHILDREN AND YOUNG PEOPLE IN THE UK HAVE T2D.

The paediatric T2D caseload at The Royal London Hospital, part of Barts Health NHS Trust in East London, is the highest in the UK and is increasing rapidly. New T2D diagnoses in children doubled from **2.6 TO 5.3** per year between 2009 and 2018.

NHS

WHY DOES THE ROYAL LONDON HAVE SO MANY CHILDREN WITH T2D?

EAST LONDON HAS A HIGHER PREVALENCE OF CHILDHOOD OBESITY THAN THE REST OF THE COUNTRY

45% OF PATIENTS ARE FROM THE MOST DEPRIVED COHORTS

HIGHER PERCENTAGE OF PATIENTS FROM BLACK (23%), ASIAN (27%) ETHNICITIES COMPARED TO 4% AND 7% NATIONALLY

Those from Asian or African backgrounds are at a higher risk of developing T2D at a lower weight.

OBESITY & T2D IN CHILDREN IS COMPLEX

YOUNG PEOPLE WITH OBESITY ARE LIKELY TO ALSO SUFFER WITH:

- LOW SELF-ESTEEM
- STIGMATIZATION & BULLING
- SCHOOL ABSENCE
- HIGH CHOLESTEROL
- HIGH BLOOD PRESSURE
- BONE & JOINT PROBLEMS
- BREATHING DIFFICULTIES

ADDING A T2D DIAGNOSIS COMPLICATES IT FURTHER...

Children diagnosed with T2D have more rapid development of complications from diabetes compared to those diagnosed in adulthood.

45.5% of young people with T2D also require mental health support.

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THE RCPCH QUALITY IMPROVEMENT PROJECT

The Royal London Hospital was selected to run the **ROYAL COLLEGE OF PAEDIATRICS AND CHILD HEALTH (RCPCH)** Quality Improvement (QI) project for the treatment of children and young people with T2D.

RCPCH
Royal College of Paediatrics and Child Health
Leading the way in Children's Health

WHAT WAS THE AIM?

Ensure all newly diagnosed T2D patients achieved an HbA1c of **48MMOL/MOL** 12 months post diagnosis.

The team needed to ensure patients lost enough weight to get the clinical results necessary for remission, whilst ensuring the patient's mental well-being during and after treatment was prioritised.

NEW TREATMENT PATHWAY

The team developed a new treatment pathway for all new admissions with abnormal Oral Glucose Tolerance Test (OGTT) or elevated blood glucose levels.

"Our first huge change was that we decided we wanted to admit all young people with T2D from diagnosis, and I do believe that that made one of the biggest differences."

KATE HENSON, RD AND QI PROJECT LEAD

The pathway established a full multidisciplinary team (MDT) approach, with doctors, nurses, dietitians and psychologists all working together to provide the best care for patients.

It also ensured all comorbidity screenings were done internally to reduce the number of services and teams children and their families had to meet.

WAS IT SUCCESSFUL?

Compared to the previous treatment pathway, the new approach resulted in a larger reduction in BMI z-scores of children diagnosed with T2D after 6 & 9 months.

This was maintained to 2 years in around **67%** of patients.

DIETARY ASSESSMENT & INTERVENTIONS

In order to provide the most appropriate dietary interventions for young people and their families, a good dietary assessment needs to be done to identify clinical, environmental and individual factors to consider.

CLINICAL

- WEIGHT/ BMI / WAIST CIRCUMFERENCE
- WEIGHT HISTORY & FAMILY WEIGHT HISTORY
- BLOOD LIPIDS
- BLOOD PRESSURE
- COMORBIDITIES
- DIET HISTORY
- FOOD FREQUENCY
- EATING HABITS

ENVIRONMENTAL

- DAILY ROUTINES
- FAMILY SUPPORT
- CULTURE
- ECONOMIC STATUS
- HOUSING
- PHYSICAL ENVIRONMENT

INDIVIDUAL

- KNOWLEDGE
- LIFE GOALS
- MENTAL HEALTH
- MOTIVATION
- BODY IMAGE
- SLEEPING PATTERNS
- BEHAVIOURAL ISSUES
- EMOTIONAL EATING

THE WHOLE FAMILY NEEDS TO BE INVOLVED & PARENTS SHOULD LEAD BY EXAMPLE!

1. EATING TOGETHER AT MEALTIMES AT ROUGHLY THE SAME TIME EACH DAY (WITHOUT TV, TABLETS, PHONES)

2. WHOLE FAMILY SHOULD AGREE TO REDUCE THE NUMBER OF UNHEALTHY FOODS AVAILABLE IN THE HOUSE
3. ROUTINE MEAL TIMES AND DON'T SKIP MEALS
4. HAVE A VARIETY OF FOODS AVAILABLE FOR ALL THE FAMILY (FRUIT, VEGETABLES, RICE CAKES)
5. DO DAILY PHYSICAL ACTIVITY TOGETHER

6. INTRODUCE A ROUTINE OF GOING TO BED ON TIME AND WAKING UP IN THE MORNING

THERE IS JUST ONE DIET THAT WORKS. THE ONE THE CHILD, YOUNG PERSON, AND THEIR FAMILY CAN STICK TO!

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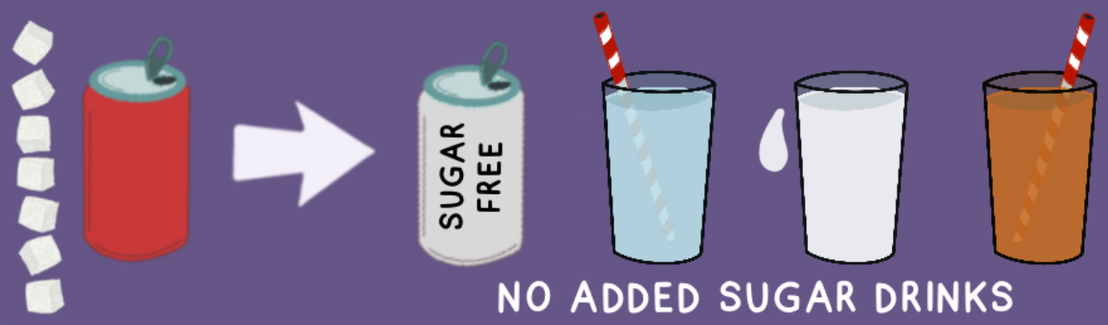
WHAT ABOUT CARBS?

NO SUGARY DRINKS

Sugar-sweetened drinks cause a rapid rise in blood glucose. It's recommended that patients with T2D cut out all drinks containing sugar.

CHECK THE LABEL: 2G/100G IS TOO HIGH



NO ADDED SUGAR DRINKS

CHOOSE CARBS WISELY & EAT IN MODERATION

Opt for complex carbohydrates, rich in fibre that are digested more slowly. This is so that glucose is released into the blood more slowly. Eaten in moderation, these foods can help to control blood glucose levels.

BREAD, PITTA, CHAPATTI: Granary, multigrain, seeded or wholemeal

CEREAL: Porridge, low sugar muesli, wheat or oat breakfast biscuits

RICE, PASTA, GRAINS: Basmati rice (white or brown), all pasta, pearl barley, bulgar wheat, couscous

STARCHY VEG & PULSES: New potatoes, sweet potatoes, yam, cassava. Baked beans, kidney beans, chickpeas, lentils

WORKING OUT CARB PRESCRIPTIONS

Work out energy requirements (using Schofield or Mifflin equations)

→ Subtract 600-1000kcal

→ Work out 40-50% of energy as carbs

→ From the that, subtract carbs to be given as fruit and dairy as per BDA portion guide

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Starchy carbs a patient should be having in a day

L → Split across meals and snacks e.g. breakfast, lunch, dinner

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This needs to be based on a good dietary assessment of the individual.

If their diet is really high in carbs or very high in calories a smaller reduction is more appropriate.

If they usually have snacks, include a snack in the calculations.

NOT A LOW CARB DIET

THERE IS INSUFFICIENT EVIDENCE OF LOW CARB DIETS IN CHILDREN SO RECOMMENDATIONS DON'T DROP BELOW 130G OF CARBS A DAY.

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OTHER TOOLS THAT MAY HELP

MEAL REPLACEMENTS

There is no research on the use of meal replacement products in children and young people, so they should be used with caution in post pubertal young people. Disordered eating history should be checked first.

If using total meal replacements, ensure the energy deficit is sustainable.

If using partical meal replacements opt for 600-1000kcal deficit and ensure it fits into the young persons lifestyle.

WHAT CAN IT LOOK LIKE?

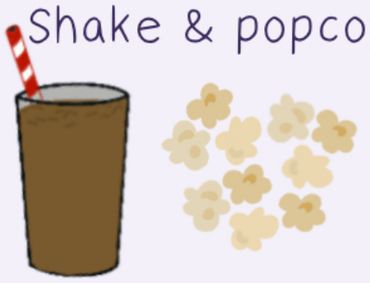
~ MENU ~

BREAKFAST

Porridge & 1 tbsp raisins

LUNCH

Shake & popcorn



DINNER

500kcal dinner

(Caroline Walker Trust recipes)

FREE SNACK

Veg sticks

Calorie controlled ready meals may also be an option.

VERY LOW CALORIE DIETS

Very Low Calorie Diets are not currently recommended for children and young people with T2D.

There is research planned for a similar intervention to the DiRECT trial in adults.

WEIGHT LOSS GROUPS

Weight loss groups can be attended by children as young as 11 years old with an adult. There is typically poor attendance at these groups amount young people but those who do attend find it useful.

PHYSICAL ACTIVITY

Exercise alone will not lead to weight loss, but physical activity is the best medicine you can prescribe as there are so many other benefits.

Research suggests that physical activity can reduce HbA1c and BMI, and increase the proportion of HDL cholesterol in the blood in children and young people with T2D.

Having good role modelling is also important with children and young people. Research suggests that physical activity of fathers influences sons, mothers influences daughters and friends influences the activity of teenagers!