The likes of Sir Steve Redgrave and Billie Jean King have proven that it is possible to reach the pinnacle of sporting achievement with diabetes. We can, however, confidently speculate that this is not without much effort and experimentation with regard to blood glucose management.

The variations in glucose levels faced by those with Type 1 diabetes trying to undertake exercise can be significant. A drop in glucose levels may occur as a result of increased glucose uptake and increased insulin sensitivity but conversely, a rise may also be seen as a result of the production of counter-regulatory hormones. Both of these factors are affected by the type and intensity of activity, the time of day in which it occurs, the timing, amount and site of injection of insulin doses and carbohydrate intake before during and after the activity. Add to this that the effect of increased insulin sensitivity may be noted for many hours after and it is easy to see why it can feel as though achieving anything near usual glycaemic targets is as challenging to achieve as winning a medal at the Olympics. Individualised management plans to help people achieve their goals will be based on some key principles but will need to be tested and refined in practice. Our role as health care professionals in this process is of course to provide information when needed but, as is so often the case in diabetes, the key skill is in helping people understand how these principles apply to them and to help them develop a set of data analysis and problem solving skills that will help them adapt when needed. So what are the key principles?

### 1. What is the person exercising for?

The actions required if somebody is exercising for weight management may be different to those required if somebody is exercising competitively.

**Practical application:** Ask the purpose of exercise and focus on insulin reductions to prevent hypo’s for those wishing to reduce weight. For all others, a combination of insulin and carbohydrate adjustment are likely to be needed.

### 2. What type of exercise is being undertaken, ie its duration and intensity?

It is common for a golfer to report hypos around the 9th hole and beyond whereas some gym based or short burst activities may result in frustration at high glucose levels during or after events and the associated negative impact on performance.

**Practical application:** Frustration with glucose results is one of the commonest issues seen in our clinics. Helping people understand why they are experiencing a particular response is the first step to appropriately managing this. Support them in reflecting on which activities have which impact on their glucose levels.

### 3. (This may be third but is arguably the most crucial point). What is the persons usual response to the same activity at the same time of day?

We can know all the principles in the world but we are all aware that most of our patients do not fit text book cases – there are too many variables to allow it to be that simple!

**Practical application:** Support people in comparing like for like, eg the frustrated person may not notice that they are comparing a 40 minute gym session to a 4 hour stroll with friends or that two similar exercise sessions are undertaken at different times of the day (see point 4 also).
4. What insulin is on board at the time of the activity?

It sounds very simple but helping people understand that they will get a different response to the same activity when it is performed at the peak of insulin doses compared to when insulin doses are running out.

**Practical application:** Help people understand their insulin regimen and where its peaks and troughs are. Allowing them to ‘plot’ this on a graph can provide a visual prompt to help them ‘see’ this more effectively.

5. What are the energy (carbohydrate) requirements of the activity?

A long distance marathon runner will need to plan their event, loading with carbohydrate (CHO) before the event, topping up during the session and replenishing stores after the event whereas a 20 minute swim is not likely to require the same level of adjustment and planning. This can feel like a fine balancing act between not having enough CHO to prevent a hypo but also not having so much that performance is affected.

**Practical application:** Help people understand that carbohydrates are released at different rates and support them in identifying that;
1. Slow release CHO is needed for loading, some replenishing and for use during prolonged but low intensity activities (golf, hiking).
2. Fast acting CHO is useful for top up during prolonged moderate activity* (eg swimming, cycling, jogging), quickly preventing a further drop in glucose levels or treating a hypo.

*A simple ‘top up’ (fast acting) drink can be made using 50% water and 50% orange juice, on average aiming for 20g CHO for every 30 minutes of exercise (around 400mls).

6. Where was the most recent insulin dose injected?

Injecting into a thigh and then going for a run (ie increasing the blood flow to the area of injection) can increase the speed at which that dose is absorbed leading to hypoglycaemia followed by higher levels later when the insulin has run out.

**Practical application:** Encourage people to formally document where they inject to see if there is any pattern to their glucose struggles and a particular site. Check injection sites for any signs of lipohypertrophy.

7. What insulin adjustments may be required?

The answer to this will depend on a number of answers to the above questions but a simple starting point can be to consider reducing the bolus insulin prior to the event if exercising within a couple of hours of injecting it and considering a basal dose reduction if exercise is prolonged, regular or delayed hypos have been noted.

**Practical application:** The amount of bolus adjustment can vary dependant upon the intensity of activity but a short episode of gentle activity may only need a 10% reduction whereas a prolonged or intense workout may require more (30-60%). Remember basal rate adjustments will have a knock on effect for the rest of the next day so should be monitored carefully. Consider whether insulin pump therapy may be useful.

8. What is the starting level of glucose and a persons ‘usual’ glucose pattern at this time?

Corrections may be required if somebody is below 6 or above 12 before starting exercise to allow them to achieve full performance without experiencing a hypo.

**Practical application:** Helping people understand their usual patterns is key to understanding what adjustments may then be needed from the impact of exercise. Aim to support a period of data collection without exercise complicating the picture.

Other factors to consider
- Undertaking the above will require frequent blood glucose monitoring (ie before, during and after activity as well as their ‘standard’ tests).
- It is worth noting that we are focusing on sporting activities but remember that hooverying, shopping, car cleaning, sex and so on can all result in similar problems.

If this sounds like a marathon task, there are options for help. The intensive insulin management team at QA can provide input for patients wishing to take their management to the next level and individual patients may find useful information on the Run Sweet website: www.runsweet.com
The use of HbA1c as a TOOL for DIAGNOSIS DIABETES

Background
Historically, diabetes mellitus has been diagnosed on the basis of plasma glucose measurements with or without hyperosmolar symptoms. Commonly used tests to measure glucose concentration include fasting and random plasma samples and less frequently, the 2-hour oral glucose tolerance test (OGTT). In 2011, the World Health Organisation (WHO) published guidance on the use of HbA1c as a diagnostic tool for diabetes. WHO recommends that:

i. “HbA1c can be used as a diagnostic test for diabetes providing that stringent quality assurance tests are in place and assays are standardised to criteria aligned to the international reference values, and there are no conditions present which preclude its accurate measurement”
ii. “An HbA1c of 48 mmol/mol (6.5%) is recommended as the cut point for diagnosing diabetes. A value of less than 48 mmol/mol does not exclude diabetes diagnosed using glucose tests and, currently there is insufficient evidence to make any formal recommendation on HbA1c below 48 mmol/mol”

Its recommendation took into account the results of a systematic review on the performance of HbA1c in diagnosing diabetes based on the detection and prediction of microvascular complications, and the advantages and disadvantages of HbA1c to diagnose diabetes. Point-of-care HbA1c must not be used as a diagnostic test as it is not standardised to the WHO requirements.

An expert group in the UK reviewed the WHO report and published a consensus statement on the use of HbA1c to diagnose diabetes. The group agreed that the WHO requirements are met in the UK and presented its recommendations:

i. An HbA1c ≥ 48 mmol/mol with symptoms is diagnostic of diabetes; in those who are asymptomatic venous plasma HbA1c should be repeated in the same laboratory within 2 weeks. If the second HbA1c is < 48 mmol/mol, treat as high risk of developing diabetes and repeat HbA1c in 6 months or sooner if symptoms develop.
ii. An HbA1c of 42-47 mmol/mol is treated as high risk of diabetes. Intensive lifestyle advice should be provided, patients warned of symptoms of diabetes and HbA1c monitored annually.
iii. An HbA1c < 42 mmol/mol may still be considered at risk of diabetes. If clinically deemed at high risk, these patients should be managed as above.

Advantages and Disadvantages of using HbA1c to diagnose diabetes
Before we implement the use of HbA1c as a diagnostic test for diabetes in the UK, let us consider the advantages and pitfalls of using it as a screening tool.

THE PROS
Why HbA1c may be preferred to plasma glucose:
- HbA1c sampling is convenient and does not require patients to fast
- Fasting plasma glucose (FPG) measurements or OGTT are taken at specific time points whereas HbA1c captures glycaemic exposure over a period of 2-3 months so it provides a more robust indicator of glycaemic control
- HbA1c is relatively stable unlike glucose concentration which varies throughout the day. Factors that may affect glucose concentrations include acute illness and stress. The day-to-day within person variation of HbA1c and FPG is <2% and 12-15% respectively
- The reliability of plasma glucose measurements has been questioned for a number of reasons.
  - The patient factor: patients may not strictly adhere to instructions for FPG or OGTT prior to the test
  - Pre-analytical stability: once blood has been sampled, glucose consumption by blood cells occurs within the first 1-2 hours and the average rate of glucose fall is 5-7% per hour. Blood collection tubes that do not contain antiglycolytic substances, exposure to high ambient temperature, and delayed processing of blood samples may result in lower glucose levels than their true value. Taken together, plasma glucose has less pre-analytical stability than HbA1c.
  - Biological variability: when two HbA1c or two plasma glucose measurements (FPG or 2-hour prandial glucose) are taken from the same individual, more variation is observed with glucose values suggesting that the use of two glucose values to diagnose diabetes may be less reliable than HbA1c.
- One of the concerns using HbA1c assay to diagnose diabetes is its lack of standardisation. The reproducibility and standardisation of HbA1c assay across laboratories in the UK (and in other countries) have improved. Indeed, the UK expert group indicated that UK laboratories fulfil the WHO requirements to use HbA1c as a diagnostic test for diabetes.
- HbA1c correlates well with diabetes-related complications - it is as strongly associated with retinopathy as FPG or 2-hour prandial glucose (2h PG), and may be a better predictor of cardiovascular disease than FPG
- HbA1c is already being used to initiate and monitor response to glycaemic treatment so it makes sense to use HbA1c for diagnosing diabetes as well.
THE CONS
Why plasma glucose may be preferred to HbA1c, HbA1c provides little information on postprandial glucose excursions and acute hyperglycaemia
HbA1c has poor sensitivity and may potentially delay the diagnosis of diabetes – it takes longer for HbA1c to reflect changes in glucose levels in situations where blood glucose has risen over a short time (e.g. days-weeks). Using an HbA1c cut-off of at least 48mmol/mol to diagnose diabetes misses about 60-70% of patients with previously undiagnosed diabetes whilst FPG (≥7mmol/l) misses approximately 50% and 2h PG (≥11.1mmol/l) misses about 10%.
HbA1c increases with age and differs between ethnic groups (higher in non-Caucasians populations). Age and ethnicity matched HbA1c values are not available.
HbA1c is unreliable in a number of situations such as haemoglobinopathies and conditions which increase erythrocyte turnover (see Figure 1).
2h PG is a better predictor of cardiovascular disease than HbA1c
HbA1c assays are more expensive than glucose measurements. Arguably the cost of healthcare professional time for an OGTT would make it more expensive than an HbA1c assay thus using HbA1c as a screening test may not be more costly.
The method of HbA1c measurement has not been standardised worldwide and there is limited availability of HbA1c assay in many less developed countries.

Conclusion
It is clear that none of the existing diagnostic tests is perfect, especially when used to screen an asymptomatic population for type 2 diabetes. There are merits in using HbA1c to diagnose diabetes however one should be cautious of its use in certain populations and medical conditions. It should not be used as the only diagnostic test for type 1 diabetes because HbA1c is often normal/low at the time of diagnosis as it does not reflect a rapid increase in blood glucose level over a short period of time.

Gaining momentum but not adopted locally and within the UK yet
It is important to highlight that the use of HbA1c to diagnose diabetes is not widely adopted in the UK and certainly not being implemented locally at present. However, this may change in the future depending on local policies and national recommendations.

References

Figure 1: Factors affecting the reliability of HbA1c assay

1. Erythropoiesis
Increased HbA1c: iron, vitamin B12 deficiency, decreased erythropoiesis.
Decreased HbA1c: administration of erythropoietin, iron, vitamin B12, reticulocytosis, chronic liver disease.
2. Altered Haemoglobin
Genetic or chemical alterations in haemoglobin: haemoglobinopathies, HbF, methaemoglobin, may increase or decrease HbA1c.
3. Glycation
Increased HbA1c: alcoholism, chronic renal failure, decreased intraerythrocyte pH.
Decreased HbA1c: aspirin, vitamin C and E, certain haemoglobinopathies, increased intra-erythrocyte pH.
Variable HbA1c: genetic determinants.
4. Erythrocyte destruction
Increased HbA1c: increased erythrocyte life span: Splenectomy.
Decreased A1c: decreased erythrocyte life span: haemoglobinopathies, splenomegaly, rheumatoid arthritis or drugs such as antiretrovirals, ribavirin and dapsone.
5. Assays
Increased HbA1c: hyperbilirubinaemia, carbamylated haemoglobin, alcoholism, large doses of aspirin, chronic opiate use.
Variable HbA1c: haemoglobinopathies.
Decreased HbA1c: hypertriglyceridaemia.
GLP 1 Agonists
Giving The Patient An Informed Choice

Criteria For Starting A GLP1 Agonist:
Currently there are three GLP1s available to our type 2 diabetic population.
These are:
• Bydureon
• Exenatide
• Liraglutide
GLP 1 agonists should be offered to people who have type 2 diabetes
• with 2-3 oral hypoglycaemic agents at maximum therapy dose.
• if patient has had type2 diabetes for up to 13 years.
• patient who has an HBA1C less than 115mmol/mol (13%).
• considered for patient who has a BMI no greater than 27 but gaining weight or if BMI is 30
  and static.

Patients who are not suitable for GLP1 agonists
• If the patient has been a diabetic for more than 13 years and the HBA1C is higher than 13% then
  insulin would be the treatment of choice.
• Patient are required to be 21 years or over.
• Gestational diabetes.

GLP1 agonists are an injectable therapy for type 2 diabetes. The patient has been trained to
administer the drug by either a practice nurse or a specialist nurse. This medication is not licensed
for patient already taking insulin. These patients should be referred to the diabetes centre for
specialist supervision.

The patient is given a 6 month trial of this therapy – if during this time there has been a reduction
in the patient’s weight or the HBA1C has dropped by 6mmol/mol (half % ) then this therapy would
be considered a success. If after 6 months neither of the above has happened then discontinue
the drug.

This should be made clear to the patient at the beginning of their treatment. It is also wise to
stress to the patient that these drugs are not licensed as weight loss drugs in this country but are
licensed for glycaemia control. Weight loss should be regarded as a side effect for some people.
It should also be remembered that the effects of this drug will eventually plateau, provided the
patient’s weight remains static and the glycaemic control does not start to deteriorate they should
remain on the treatment.

Patient’s who start taking a GLP1 will be required to monitor their blood glucose levels closely,
especially while changes are being made to their drug regimens. Prior to starting the GLP 1, a
blood test for urea and electrolyte should be obtained – this provides the practitioner with a
benchmark for any further tests. If the patient is also taking a Sulphonylurea they will also need
to inform the DVLA as they will be running an increased risk to Hypo.

Continued ...
This table compares the differences between the different GLP1 agonists:

<table>
<thead>
<tr>
<th></th>
<th><strong>BYDUREON</strong></th>
<th><strong>EXENATIDE</strong></th>
<th><strong>LIRAGLUTIDE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOSE</strong></td>
<td>2MG/WEEKLY INJECTION</td>
<td>5MCG (first month) 10MCG INJECTION BD</td>
<td>0.6MGS (first week) 1.2MGS-1.8MGS DAILY</td>
</tr>
<tr>
<td><strong>COST (MONTHLY)</strong></td>
<td>£73.48</td>
<td>£68.24</td>
<td>£78.48</td>
</tr>
<tr>
<td><strong>LICENSING</strong></td>
<td>USE WITH METFORMIN SULPHONYUREAS AS THIRD THERAPY</td>
<td>USE WITH METFORMIN SULPHONYUREAS AS THIRD THERAPY</td>
<td>USE WITH METFORMIN SULPHONYUREAS AS THIRD THERAPY</td>
</tr>
<tr>
<td><strong>USE WITH</strong></td>
<td>OFF LICENSE</td>
<td>CAN BE USED WITH BASAL INSULINS</td>
<td>LEVEMIR CAN BE ADDDED TO LIRAGLUTIDE</td>
</tr>
<tr>
<td></td>
<td>PRE-LOADED PEN</td>
<td>PRE-LOADED PEN</td>
<td>PATIENT TO MIX DRUG</td>
</tr>
<tr>
<td><strong>SIDE EFFECTS</strong></td>
<td>NAUSEA VOMITTING DIARRHOEA CONSTIPATION</td>
<td>NAUSEA VOMITTING DIARRHOEA CONSTIPATION</td>
<td>NAUSEA VOMITTING DIARRHOEA CONSTIPATION PEA SIZE LUMPS (FOLLOWING INJECTION)</td>
</tr>
<tr>
<td></td>
<td>WEIGHT LOSS IN SOME PATIENTS</td>
<td>WEIGHT LOSS IN SOME PATIENTS</td>
<td>WEIGHT LOSS IN SOME PATIENTS</td>
</tr>
</tbody>
</table>

**Insulin And GLP 1 Agonists**
Insulin is not licensed with a GLP1 except in the case of Liraglutide where Levemir can be added to the patient’s therapy. However, an off license use of this may be considered in some cases and the Area Prescribing Committee guideline recommends that this be a specialist team decision.
Retinal Screening requirement relates to those with a risk of developing sight-threatening retinopathy, rather than to the underlying diagnosis or categorical label applied to the diagnosis, therefore...

<table>
<thead>
<tr>
<th>Reason Declared Ineligible for screening</th>
<th>Comment / Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODY / Genetic Diabetes</td>
<td>STILL REQUIRES SCREENING</td>
</tr>
<tr>
<td>Post Bariatric Surgery (“no longer diabetic”)</td>
<td>REQUIRES ON GOING SCREENING FOR AT LEAST 5 YEARS only those with no retinopathy and stable non-diabetic status after 5 years should be discharged (national guidance pending)</td>
</tr>
<tr>
<td>Secondary Diabetes (Diabetes secondary to another condition eg cystic fibrosis, cushings, drug treatments etc)</td>
<td>STILL REQUIRES SCREENING</td>
</tr>
<tr>
<td>Secondary Diabetes Now Cured following removal of trigger</td>
<td>If glucose tolerance status confirmed as normal (and expected to remain so) and no evidence of retinopathy, can be removed from programme, otherwise should remain in programme.</td>
</tr>
<tr>
<td>Diabetes has improved with treatment such that glycaemic status now IGT</td>
<td>STILL REQUIRES SCREENING</td>
</tr>
<tr>
<td>Post Transplant Diabetes (NODAT)</td>
<td>STILL REQUIRES SCREENING</td>
</tr>
<tr>
<td>Has had a pancreas transplant (“cured”)</td>
<td>REQUIRES ON GOING SCREENING FOR AT LEAST 5 YEARS only those with no retinopathy and stable non-diabetic status after 5 years should be discharged</td>
</tr>
<tr>
<td>Glucose Intolerant</td>
<td>If glucose intolerance is a new diagnosis (ie no diagnostic of diabetes test has ever been recorded) then screening is not necessary, an information governance incident has occurred if such patients are on the register. HOWEVER if glucose intolerant diagnosis is made following (for instance) tight dietary management in a patient previously diagnosed with diabetes then SCREENING IS STILL REQUIRED</td>
</tr>
<tr>
<td>Gestational Diabetes</td>
<td>Such patients without a prior diagnosis of diabetes are not generally included within the register (although may receive retinal photography outside the routine screening process if clinically indicated). Following pregnancy those whose glucose status returns to normal (or IGT) should NOT be entered into the register, however those who remain in the diabetic range SHOULD be added to the register.</td>
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<tr>
<td>Date</td>
<td>Time</td>
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<tr>
<td>9 July 2012</td>
<td>09.00-13.00</td>
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<td>30 August 2012</td>
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<td>12 September 2012</td>
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<td>18 September 2012</td>
<td>09.00-17.00</td>
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<td>19 November 2012</td>
<td>09.00-16.00</td>
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<td>13 November 2012</td>
<td>09.00-13.00</td>
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<td>4 December 2012</td>
<td>09.00-18.00</td>
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<tr>
<td>5 December 2012</td>
<td>09.00-13.00</td>
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<tr>
<td>24 January 2013</td>
<td>09.00-18.00</td>
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<tr>
<td>25 January 2013</td>
<td>09.00-13.00</td>
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<tr>
<td>12 February 2013</td>
<td>13.00-18.00</td>
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<tr>
<td>19 February 2013</td>
<td>13.00-18.00</td>
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<tr>
<td>26 February 2013</td>
<td>13.00-18.00</td>
</tr>
<tr>
<td>8 March 2013</td>
<td>13.00-18.00</td>
</tr>
</tbody>
</table>

For Course Details and a Registration Form, Visit our website at: [www.porthosp.nhs.uk/Diabetes-and-Endocrinology/professional-education.html](http://www.porthosp.nhs.uk/Diabetes-and-Endocrinology/professional-education.html)

Or email us on: Diabetic.ProfessionalEducation@porthosp.nhs.uk
REGISTRATION FORM

Title

Name (please print)

Place of work

Position

Contact Details
Telephone Number (work/home):
Mobile No:
Email address:

PLEASE PROVIDE DETAILS OF THE EDUCATION MODULE (S) THAT YOU WISH TO APPLY FOR:

Preference 1
Course Name:
Course Dates:

Preference 2
Course Name:
Course Dates:

Preference 3
Course Name:
Course Dates:

Depending on demand, it may not be possible to attend your chosen course (or courses) on the date specified. If this is the case, you will be added to a waiting list.

To finalise your acceptance on the course, we would be grateful if you could send a deposit in the form of a cheque made payable to "Portsmouth NHS Trust" for £50, dated a month before your module is due to take place. This cheque will not be cashed, but held on record and returned to you on the day of attendance at the course. The deposit will only be cashed if you do not attend the course and do not provide at least one week's notice – the time we require to give an opportunity for candidates on the reserve list to attend.

Please forward your completed form and deposit to:

CAROLINE PARNELL
DIABETES PROFESSIONAL EDUCATION CO-ORDINATOR
DIABETES & ENDOCRINOLOGY DEPARTMENT
QUEEN ALEXANDRA HOSPITAL
PORTSMOUTH PO6 3LY
A Diabetes Patients’ Conference

on

Thursday 25\textsuperscript{th} October 2012
9.30am for 10.00am start until 4.00pm
at
The Entertainments Hall
St. James Hospital, Portsmouth

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Best Foot Forward!

Presentations, Raffle, Stalls, etc.

\textit{Everyone most welcome.}

Admission charge of £3.50 each, payable at door, towards the cost of a healthy lunch and refreshments

*******

To register please contact your Diabetes UK Group, an SDA diabetes charity shop or Caron/ Zoe on 01329 224548

Diabetes UK. The charity for people with diabetes.
Charity No. 215199  Website www.diabetes.org.uk
SOUTHERN DIABETES WINTER CONFERENCE
Date: 30th November 2012
Venue: Hotel Marriott, Portsmouth

9:00 - 9:30: Coffee / Reception / Welcome: Dr Partha Kar
9:30 - 10:15: The Big Debate:
“What choice after Metformin?
Out with the old (sulphonylureas and glitazones) and in with the new (gliptins and GLP1 analogues)?”
For: Dr Mike Masding, Against: Dr Andrew Brooks
10:15 - 11:00: “The state of mind in diabetes - Is it psyche or hype?!”
Speaker: Dr Kath Barnard
11:00 - 11:15 Coffee break
11:15 - 12:15 Workshop 1-4
12:15 - 1:15 Lunch
1:15 - 2:15 Workshop 5-9
2:15 - 3:15 Top 4 workshops (as per delegate request) repeated
3:15 - 3:30 Coffee
3:30 - 4:15 Diabetes foot care – to refer or not to refer?
Speakers: Dr Darryl Meeking and Sharon Tuck

Workshops:
1. Challenges with the adolescent diabetes patient: Dr Partha Kar
2. Blood sugar monitoring and interpretation: Lisa Skinner
3. Erectile dysfunction – potions and gadgets: Sarah Moutter & Louise Gallop
4. Treating obesity in diabetes – a fat lot of good?: Dr Lorraine Albon
5. Dietary fads & their effects on diabetes management: Sue Beaden or Jeannette Head
6. Top tips for pregnancy management in diabetes: Prof Mike Cummings
7. Impaired fasting glucose – stopping the rot!: Dr Lina Chong
8. Managing intercurrent illnesses, steroid use etc in diabetes: Jo Buchanan
9. Secondary endocrine causes of diabetes – don’t forget them! Jean Munday

The Diabetes Specialist team are aiming to hold a whole day conference aimed at primary care- focussing on areas dealing with diabetes management. The conference will consist of a variety of lectures/discussions and workshop sessions based firmly upon the practical management of patients with diabetes and common endocrine conditions, as per the attached provisional programme.

If you would like to attend the conference, please fill out the form below with the necessary details and send it, with a cheque made payable to: “Portsmouth Hospitals NHS Trust” addressed to: Mrs. Jane Cansfield, Diabetes Centre, Queen Alexandra Hospital, Portsmouth PO6 3LY (Please note monies are non-refundable if you cancel within one month of the conference).

Name
Contact No.
Job Title
Any specific dietary requirement?
Workshop choices: (Allocated on first come, first serve basis)
Option 1
Option 2

Registration Fees
£50 per head which will be inclusive of catering costs and parking charges at the Marriott Hotel, Portsmouth.
SPECIALIST DIABETES REFERRALS

Direct GP access to the following services is available. Emergency referrals we will aim to see within 24 hours and routine referrals will be seen within 4-6 weeks. These services are provided in addition to the traditional diabetes clinics operating at QAH, GWM and Petersfield Hospital. Referrals may be made through a conventional letter/fax or Choose and Book unless otherwise stated.

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>COMMENT</th>
<th>SERVICE PROVIDED BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid Access (URGENT)</td>
<td>Urgent cases eg new onset type 1 diabetes, mild DKA may be discussed with any member of the diabetes team to decide the best course of action. <strong>92 286260</strong></td>
<td>Rotational basis via specialty DSN team.</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>Usually seen within one week of referral. Please refer ASAP <strong>9228 6000 x4553 or 4584</strong> since early review is essential. The service also provides pre-pregnancy counselling for all diabetic women of child bearing age.</td>
<td>Mike Cummings, Sarah Moutter, Anita Thynne, Jeannette Head</td>
</tr>
<tr>
<td>Cardiovascular Clinics</td>
<td>For diabetic patients with established CVS disease or who are at high CVS risk who require specialist advice (including patients with microalbuminuria)</td>
<td>Mike Cummings</td>
</tr>
<tr>
<td>Foot Clinic</td>
<td>Patients can be referred by any member of the community diabetes team, usually via podiatry. Urgent slots will be kept for urgent cases.</td>
<td>Darryl Meeking, Sharon Tuck</td>
</tr>
<tr>
<td>Erectile Dysfunction Clinic</td>
<td>For any diabetic patient that has not responded to oral therapy.</td>
<td>Mike Cummings, Sarah Moutter</td>
</tr>
<tr>
<td>Type 1 Diabetes Intensified Insulin Education Service (JIGSAW)</td>
<td>Goals-based 22-hour intensive insulin education package open for patients with type 1 diabetes using multiple daily dose insulin therapy, but who are unhappy with their achieved control. Access either by DSN referral or patient self referral (both by proforma to Caroline Parnell).</td>
<td>Iain Cranston, Lisa Skinner, Jo Buchanan, Sue Beaden, Jeannette Head</td>
</tr>
<tr>
<td>Insulin Pump Service</td>
<td>Assessment / initiation and follow up service (as per NICE guidelines) for patients wishing to consider pump therapy (after education through the JIGSAW service).</td>
<td>Iain Cranston, Lisa Skinner, Sue Beaden</td>
</tr>
<tr>
<td>Low Renal Clearance Clinic</td>
<td>Assessment and follow-up for optimised metabolic management of patients with diabetes and renal impairment (eGFR 20-40) with liaison to renal services in-clinic.</td>
<td>Iain Cranston, Joanne Buchanan</td>
</tr>
<tr>
<td>Painful Peripheral Neuropathy Groups</td>
<td>One off group sessions examining the causes of and available treatments for painful peripheral neuropathy. Focus also on foot care and risks associated with sensory loss.</td>
<td>Jane Rowney</td>
</tr>
<tr>
<td>Desmond (Type 2) Education Sessions</td>
<td>Whole day group education sessions for people newly diagnosed with type 2 diabetes. Booked through the Diabetes Centre: <strong>02392 286260</strong> Portsmouth City, Tuesday – Friday. <strong>01329 229422</strong> Fareham &amp; Gosport, &amp; East Hampshire. Sarah Stiles</td>
<td>DSN Team</td>
</tr>
<tr>
<td>GLP1</td>
<td>Medical assessment and then education in the use of Exenatide b.d. or once weekly Liraglutide.</td>
<td>Iain Cranston, Mandy Morcombe</td>
</tr>
</tbody>
</table>

THE FOLLOWING SERVICES ARE ALSO AVAILABLE FOLLOWING INITIAL ASSESSMENT / REVIEW BY THE SPECIALIST NURSING TEAM

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>COMMENT</th>
<th>SERVICE PROVIDED BY</th>
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</thead>
<tbody>
<tr>
<td>Starting Insulin Groups</td>
<td>Insulin starts for patients with type 2 diabetes.</td>
<td>Jane Rowney, Sharon Allard, Mandy Morcombe</td>
</tr>
<tr>
<td>Basal Bolus Insulin Conversion Groups</td>
<td>For people with type 1 and type 2 diabetes who wish to change their insulin to a basal bolus regimen. Goals based programme with dietetic and nursing input focussing on carbohydrate counting. Accessed by proforma.</td>
<td>Anita Thynne, Sarah Moutter, Jeannette Head</td>
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</tbody>
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