



Dietitians NZ

Ngā Pukenga Kai Ora o Aotearoa



Diabetes SIG Newsletter

April 2017

Issue 3



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The DSIG Newsletter

We hope that those working in diabetes around the country will find this newsletter a useful update and provide good general information. We hope to be able to put together four newsletters per year, but the newsletter will only be as good as the information provided by members of the DSIG. If you have anything to contribute, please contact Sophie Smith: sophie.smith@wellsouth.org.nz
We would also welcome any feedback about the newsletter to keep improving future issues!

Diabetes Special Interest Group Committee Members

Shelley Mitchell	MidCentral DHB (Diabetes SIG Convener)
Ann Gregory	Capital & Coast DHB
Joanne Iremonger	Southern DHB
Eirean Gamble	Waitemata DHB
Elaine Chong	Counties Manukau DHB
Nicky McCarthy	Private Practice / Southern DHB
Alayne Healy	Counties Manukau DHB
Sophie Smith	WellSouth Primary Health Network
Amy Liu	Auckland DHB
Kate Ellison	Auckland DHB

Evaluating Advanced Carbohydrate Counting Skills

Jo Iremonger- Clinical Dietitian (Diabetes), Southern DHB

In the last few years I have found a few people being nominated for an insulin pump when I had not seen them for years and the pump rep let me know the carb counting skills of some starting a pump was varied. A person needs to be carb counting for 6 months prior to applying for a pump funded by Pharmac. Patient's interpretation of carb counting can vary with the diabetes nurse or Doctor not always questioning their knowledge. Some centres have a class or at least an appointment with the nurse and dietitian prior to pump-start. I wanted to make a tool that nurses or dietitians could use quite quickly in a follow-up appointment to help identify any gaps in the patient's knowledge and skills. I have used this with a couple of patients so far and found it really helpful; identifying counting of alcohol, adding of sugars to carb and some accuracy tweaking. I am happy for other dietitians to use this resource and certainly to adapt it as they wish.

The other resource is a user guide to help with setting up the rapidcalc app. This app is still only available on Apple but quite a few patients find it really useful. It is an app where a person enters in their carb ratios and correction factor and the app helps the person calculate their dose as well as keeping a log of blood glucose levels, carbs consumed and insulin dose given. I really like the fact it can calculate insulin-on-board, which can help prevent insulin stacking. The only issue is that some people get lost in the set-up. So I made this resource to help.

Evaluating Advanced Carbohydrate Counting Skills

Name: _____ NHI: _____ Dietitian: _____

Date: _____

This tool is to establish any knowledge gaps prior to applying for an insulin pump. Carb counting is a criteria for Pharmac approval prior to insulin pump application. A person with diabetes needs to be carb counting for at least 6 months. It is also important to have a good understanding so that a person can make the most of an insulin pump and make it easier to learn about the insulin pump at training.

Do you carbohydrate count at every meal?

If no, at what percentage (circle which applies) of the meals/snacks that you eat do you carbohydrate count?

0-25% 25-50% 50-75% 75%+

How do you establish the carbohydrate content of foods and beverages?

Provide a label: How much carbohydrate is in..... ? i.e 2 crackers

What did you have for lunch or dinner yesterday? What do you estimate the carb content of that meal was?

Do you carb count and give insulin at snacks?

What are your insulin to carb ratio/ratios?

What is your correction factor (CF) or insulin sensitivity factor (ISF)?

Please work out how many units of rapid acting insulin (humalog/apidra/novorapid) you would take if your blood sugar at lunch time was 14mmolL and you were about to eat 45g of carbohydrate:

Do you have access to the following (circle) ...

- Computer or tablet with internet access

- Smartphone

- Advanced carbohydrate counting booklet

- Other books or resources – please list: _____

If you drink alcohol do you count the carbohydrate in these beverages? Yes/ No

User Guide for Rapidcalc App

March 2017

This App can help you to make decisions about adjusting your insulin on a day to day basis. The app will not tell you when you need to make an adjustment to a basal dose or ratio but if you use it regularly you can see patterns and even export your logbook to your healthcare providers email.

The settings can be adjusted by tapping on the “cogs” on the bottom right of the screen. It is important to take the time and make sure settings are right or the app could be giving you incorrect dosing information.

1. Units and Limits – set to the following:

blood glucose units - mmol/L

carbohydrate units – grams

carb ratio measure – g/unit

HbA1c units - mmol/mol

Smallest pen dose - (0.5u if you have a ½ unit pen or 1u if standard pen)

RAI = Rapid Acting Insulin (Apidra/ Novorapid or Humalog) – you can choose to switch on a maximum RAI dose if you wish

2. Blood Glucose (BG) Thresholds: Ideal BG range – this can be set as desired but most people would have 4mmolL as the lower threshold and 10mmolL as the upper.

Warning BG levels: General advice - 3.9mmolL for hypo and 15mmolL for ketones

3. Time periods can be adjusted to times when you typically eat specific meals. This is so if you have different meal ratios over the day the app will change the suggested doses depending on the time of day.

4. Target BG levels are what the app will use when calculating correction doses. You may aim for 6mmolL through the day but slightly higher before bed.

5. Correction factors – or Insulin Sensitivity Factor (ISF) - you may have different correction factors for different times of day or the same one across the day

6. Carbohydrate ratios – this can vary across the day also. If your carb ratio is 1unit:8grams of carb enter it as 8g/unit.

7. Insulin Usage Profile – this is how the app works out how much insulin your body has on board with time (IOB – insulin on board) for your rapid-acting insulin (Novo-rapid/ Humalog/ Apidra). This can be varied for an individual. The insulin companies predict that for most people this would use about 30% in each hour, so you could set it up Hour1: 30%, Hour 2: 30%, Hour 3: 30% and Hour 4: 10%. It needs to total 100%. This can vary between individuals. You can re-adjust this if it does not seem right for you.

8. Exercise Adjustment – this can also be varied for the individual. It is good it takes into account the duration and intensity of the exercise.

9. Basal Insulin Dosing – this is where you would add your dose of Lantus, Humulin NPH or Protaphane. It is for a reminder to take if you choose.

10. Reminders – Where you can turn on reminders for taking basal dose and checking BGL.

To look at patterns you can tap on the 'calendar' icon at the bottom left. And then you can export that to your health care provider by tapping on 'export' on the bottom right.

Changes to the youth team at Waikato Diabetes Service

Sonya Fraser, Diabetes Dietitian, Waikato DHB

The Youth and Young Adult team (YaYA) at the Waikato Diabetes Service have been busy over the past year or so making some big changes to the way things are run. The team is made up of Dr Jo McClintock, Clinical Psychologist, Sonya Fraser, Diabetes Dietitian, Vikki Lowe-Reid, Clinical Nurse Specialist, Vickie Corbett, Nurse Practitioner, and Dr Ryan Paul, Endocrinologist. Most of the team are part-time for YaYA.

In October 2015 Jo and myself were able to attend the ISPAD-APEG conference in Brisbane, and among lots of other really great presentations we spent time talking with the team from Perth about changes they had made to their youth clinic. It got us thinking about what we were doing ourselves. At that time the team was quite fragmented. We didn't all run clinics on the same day, and had time for one 30 minute clinical meeting together each week. Every clinician saw each patient individually for separate appointments. This meant new patients would receive 4 separate letters for each team member. There was also limited co-ordination of appointments as each clinician had different booking clerks, so some people might have multiple appointments across different days in a 2-3 week period. For our 15-25 year old demographic, lots of time off school or work was required. Not surprisingly many patients would attend some, but not all of these appointments with resulting higher than desired DNA rates.

So on the back of ISPAD and then after some team discussions at a planning day we restructured things. First up was to get a dedicated YaYA clinical day, with everyone working together to allow for more opportunity to have clinical case discussions and reviews. This started in March 2016. As for the clinic itself we now provide a 'wrap-around' service for diabetes care that allows our patients to see all team members in one appointment. Approximately ten young people with diabetes are booked into our YaYA clinic every Monday morning. While there they have the opportunity to see all team members for as little or long as they need with stays of up to 2 hours. At this appointment all patients receive standard care such as having their HbA1c and screening for microvascular complications performed, their annual biochemistry reviewed and their treatment regimen optimised.

We also introduced screening tools to identify recognised barriers to diabetes self-management such as depression and eating disorders, diabetes-related distress and fear of hypoglycaemia. While there has been data collected overseas using these tools, we are the first in New Zealand to use them regularly. We felt their use could be two-fold. Any barriers detected on screening allows for a more focussed approach with an individual straight away in clinic. For example, patients with significant diabetes-related distress will have extensive psychology input, whilst those with disordered eating will have significant dietitian and psychology input. Alongside this we now have a data-set of over 150 questionnaires that allows for a more detailed analysis of what the key problem areas are for those patients in the 15-25 year age-group. In very general terms we are seeing issues in at least 25% of patients for each area we screen for.

Now that we have been using this model and the screening tools for just on 12 months we are at the point of looking more closely at both the impact of the change to our clinic, alongside some more detailed analysis of the results of our questionnaires. We are also reviewing our complication rates. The clinic model itself will be presented at NZSSD as a poster, and the data analysis will be in both poster and oral presentations as well. Hopefully some of you will be at NZSSD and will see our results first-hand. I will present a summary article for the SIG of these findings in the next newsletter.

Research on diet and GDM in New Zealand

Robyn Lawrence, PhD Candidate, Auckland University



Before embarking on my PhD in 2015 I worked as a clinical dietitian primarily in women's health and diabetes so when a PhD project researching diet and gestational diabetes mellitus (GDM) arose it seemed like the perfect opportunity to combine my passion for maternal nutrition with my clinical experience. My PhD research focuses on the role of the maternal diet in the development and management of GDM in New Zealand.

A number of guidelines suggest that all women with GDM should be referred to a dietitian for dietary advice. However, there is little published literature evaluating dietetic practice in the management of GDM internationally. Two studies of dietitians working with women with GDM in Australia and Malaysia found inconsistencies in dietetic management of GDM. Both studies concluded there was a need for locally relevant, evidence-based practice guidelines for a systematic approach to dietary interventions and follow-up in women with GDM. With today's abundance of publicly available and often conflicting information on nutrition, a consistent and evidence-based approach is important to protect the health of

pregnant women and their infants and to instil confidence in the advice provided by healthcare professionals. There was no published literature on dietetic practice in the management of GDM in New Zealand so I conducted a survey of dietetic management of GDM among New Zealand registered dietitians. Thirty-three dietitians participated in the survey (an estimated 62% of dietitians working in GDM at the time). Results showed significant variation in dietetic services and management recommendations. Nine (28%) dietitians felt the service within which they worked did not offer adequate dietetic services for women with gestational diabetes. Compliance with national and international evidence-based guidelines ranged from 28% to 100% depending on the recommendation. Twenty-five (76%) respondents felt there was a need for New Zealand-specific evidence-based nutrition practice guidelines for gestational diabetes. Further details can be found in the full manuscript: Lawrence RL, Wall CR, Bloomfield FH & Crowther CA. (2016). Dietetic management of diabetes in New Zealand: A cross-sectional survey. *Nutrition and Dietetics*, 73 (5). A big thank you to all of those who participated in the survey!

The next part to my PhD research investigates how the maternal diet influences a woman's risk of developing GDM using data collected from the Growing Up in New Zealand study (www.growingup.co.nz). The Growing Up in New Zealand study enrolled over 6000 ethnically diverse pregnant women with an estimated due date between April 2009 to March 2010 residing in areas served by Auckland, Counties Manukau and Waikato District Health Boards. Face-to-face interviews were conducted with women during the third trimester of pregnancy and data describing maternal demographics, health and pregnancy history, smoking status, vitamin and mineral supplement use, as well as dietary patterns were collected. Information on infant outcomes was also collected at six weeks after birth and at two years of age. Using this data I will investigate whether there is a dietary pattern that is associated with an increased or decreased risk of developing GDM and whether compliance to the Ministry of Health's Food and Nutrition Guidelines for Pregnant Women reduces a women's risk of developing GDM. I will also explore how the maternal diet might influence child outcomes in children born to women with GDM and those born to women without GDM. I hope to have some results to share by the end of the year, so watch this space!

Highlighting recent articles

Alayne Healy, Associate Director Allied Health, Nutrition and Dietetics, CMDHB

Carbohydrates and insulin resistance in clinical nutrition: Recommendations from the ESPEN expert group *Clinical Nutrition* 36 (2017) 355e363

Carbohydrate ingestion in the diet or administration in nutritional support is mandatory, but carbohydrate intake can adversely affect major body organs and tissues if resulting plasma glucose becomes too high, too low, or highly variable. Plasma glucose control is especially important for patients with conditions such as diabetes or metabolic stress resulting from critical illness or surgery. This is a report on recent findings and emerging trends based on an ESPEN workshop held in Venice. The main conclusions were: a) excess glucose and fructose availability may exacerbate metabolic complications in skeletal muscle, adipose tissue, and liver and can result in negative clinical impact; b) low-glycaemic index and high-fibre diets, including specialty products for nutritional support, may provide metabolic and clinical benefits in individuals with obesity, insulin resistance, and diabetes; c) in acute conditions such as surgery and critical illness, insulin resistance and elevated circulating glucose levels have a negative impact on patient outcomes and should be prevented through nutritional and/or pharmacological intervention. In such acute settings, efforts should be implemented towards defining optimal plasma glucose targets, avoiding excessive plasma glucose variability, and optimizing glucose control relative to nutritional support. This article has some excellent summaries and overviews of pathophysiology and tables of BG recs for inpatients.

Diabetes professional care: ways to improve joint working and individualised patient care. *PRACTICAL DIABETES* VOL. 34 NO. 1

A good paper discussing some programmes in the UK and different models of practice. A good read in terms of service development and considering other ways of working.

On the Couch – a catch up with dietitians around the country

Every quarter we hope to catch up with different dietitians around the country to discuss their role in diabetes, opinions, inspirations and aspirations. This quarter we are thrilled to bring you an interview with Kristen White, Diabetes Specialist Dietitian at MidCentral DHB.



Tell us a bit about yourself:

I moved from United States in 2004 to be with my now kiwi husband. I did my dietetics training at Penn State University and Iowa State University. My first job in New Zealand was the Diabetes Centre in Christchurch. I had the very good fortune to work under the extremely knowledgeable Marilyn Cullens and she got me hooked on diabetes.

When not at work, I live on a lifestyle block north of Palmerston North with my husband, two children, and assorted critters. In my spare time I enjoy gardening, cooking and getting out in the Ruahine Ranges.

Where do you work and what does the role involve?

I work half time with the Diabetes and Endocrinology Service at Palmerston North Hospital. My main role is to work with pregnant women with GDM, but I work with people with type 1 and complex type 2 diabetes too. I'm also an Advanced Learning in Dietetics Tutor for the University Otago, overseeing M DIET students who come to MidCentral DHB for their second year professional placements.

What aspects of your role do you enjoy the most?

I work with a great team including clinical nurse specialists, endocrinologists and the fabulous Shelley Mitchell. Having worked on my own in the past, I think collaborative patient care is so much more interesting and effective than "going it alone." I also really enjoy working with motivated mums who want to do the best they can for their unborn children. The opportunity to empower them to make changes that can have long reaching health impacts is very gratifying.

How do you see diabetes care changing in the next 5-10 years?

I think the role of technology in diabetes care will continue to change and grow in ways we can only imagine. Keeping up with the changes – be it new apps, meters, pumps, CGMS, telehealth, etc – will be one of our biggest challenges and opportunities too.

0730	Registration opens – tea & coffee
0830	WELCOME
0845 - 0930	Welcome Plenary Diabetes in NZ – Where Are We At and Where Are We Going? Dr Brandon Orr-Walker, President NZSSD
0930 - 1030	Dietitians NZ Diabetes SIG Session One: <ul style="list-style-type: none"> • Type 1 Diabetes and Exercise - Dr Carmel Smart
1030 - 1100	MORNING TEA
1100 - 1230	Dietitians NZ Diabetes SIG Session Two <ul style="list-style-type: none"> • Type 2 Diabetes and Exercise – Andrew Reynolds • New Approaches in Obesity Management – Amy Liu • Craving Change Programme – Jo Iremonger • Cultural Diversity in Diabetes Education - Zhuoshi Zhang • Walking Away (DESMOND) – Sophie Smith
1230 - 1330	LUNCH / Industry Exhibition
1330 - 1530	Dietitians NZ Diabetes SIG Session Three <ul style="list-style-type: none"> • Dietitians NZ Diabetes SIG AGM – Shelley Mitchell (Chair) • National Integrated Knowledge, Skills and Career Framework for Diabetes Dietitians - Alayne Healy • Aotearoa College of Diabetes Nurses Accreditation Programme – Bryan Gibbison • Diabetes Management in the Rural Setting – Nicky McCarthy • Diabetes SIG Workforce Survey – Shelley Mitchell
1530	AFTERNOON TEA
1600	Closing Plenary - title tbc Dr Bryan Betty, Deputy Medical Director, PHARMAC Amanda Adler, Physician and Chair of NICE Technology Appraisal Committee, UK
1645	Closing remarks
1700	NZSSD reception / refreshments

We are SO LUCKY to have Dr Carmel Smart speaking at our Study Day this year, alongside a huge variety of 'local' speakers – it's going to be a great study day and I hope to see many of you there 😊

Shelley Mitchell, Dietitians NZ Diabetes SIG Convener

Conferences and study days for 2017

New Zealand Society for the Study of Diabetes (NZSSD)

Location: Dunedin, New Zealand

When: 2nd – 5th May 2017, **early bird registration has closed but you can still register**

Website: <http://www.nzssd.org.nz/news/2017-annual-scientific-meeting>

****Please see below for Diabetes Dietitian Sig study day program**

American Diabetes Association

Location: San Diego, California

When: June 9th – 13th 2017, early bird closed on the 23rd Feb but you can still register

Website: <http://professional.diabetes.org/meeting/scientific-sessions/77th-scientific-sessions>

Australian Diabetes in Pregnancy Society (ADIPS) 2017

Location: Canberra

When: 20-22nd October 2017, abstract submissions by 7th August and early bird registration closes 4th September

Website: <http://adips.org/>

International Society for Paediatric and Adolescent Diabetes (ISPAD) 2017

Location: Innsbruck, Austria

When: 18th – 21st October 2017, abstract submission but the end of May and early bird registration by the end of June

Website: <https://www.ispad.org/>