



# The Diabetes Reference Panel [DRP] & Diabetes Online Review Group [DORG] NEWSLETTER

## Nr. 5 - Winter-Spring 2019

Welcome to the fifth edition of our Newsletter.

The Reference Panel [DRP] and the Online Group [DORG] met on the 29<sup>th</sup> of January 2019 for the 5<sup>th</sup> BRC-sponsored meeting, with researchers and clinicians to hear more about the research taking place in Oxford and get a glimpse of the scientific world behind the closed door of a lab.

This newsletter aims to recap the main points of the talks, connecting our scientists and managers with patients and providing an important communication channel between them. At the end you will also find some active calls for participation to trials and other opportunities to get involved in research.



**Dr. Marco Pontecorvi**

# Non-Invasive Biomarkers for Non-Alcoholic Fatty Liver Disease (NAFLD) Staging before Bariatric Surgery

[Dr. Niall Dempster]

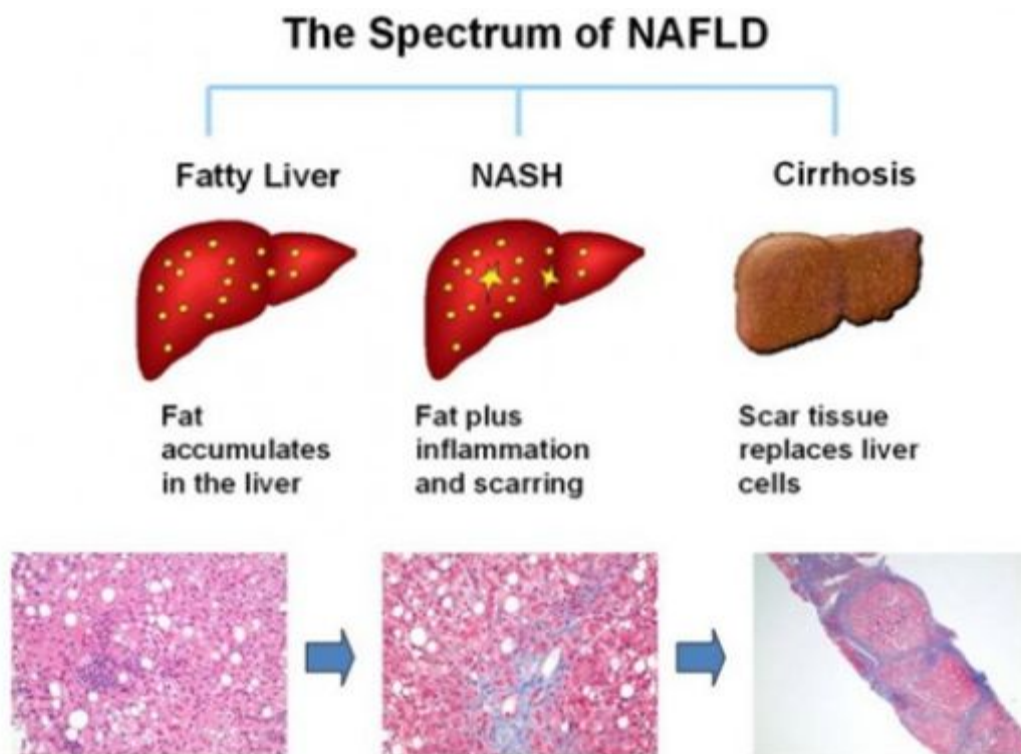


Dr. Niall Dempster

Fatty Liver (NAFLD) is a very common problem in people with Type 2 diabetes, insulin resistance and/or obesity. A small proportion of people with fatty liver go on to develop serious liver problems and so we are aiming to find blood markers (“biomarkers”) that identify those with severe NAFLD.

We evaluated the severity of NAFLD in patients undergoing weight loss surgery in the UK. We then assessed the accuracy of various biomarkers in identifying severe NAFLD. We found that severe NAFLD is common in our patients with obesity and

that it is poorly predicted by existing biomarkers. We have therefore developed a new collaboration with a University of Oxford statistician, with whom we're exploring the potential of using machine learning to develop a new and improved biomarker.



---

## The role of Peptide YY (PYY) in surgical control of diabetes

[Dr. Claudia Guida]

Bariatric surgery is a weight loss intervention that can lead to early and long-lasting remission of T2D. They include several types of procedures, that generally reduce the size of the stomach and may add a bypass procedure to reduce absorption of food as well. Sleeve

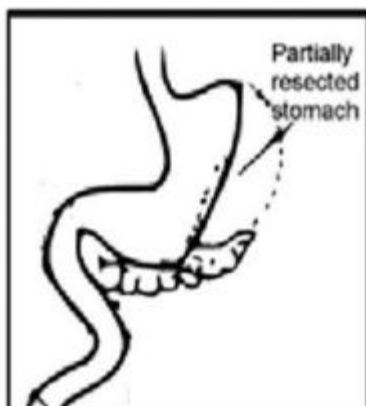


Dr. Claudia Guida

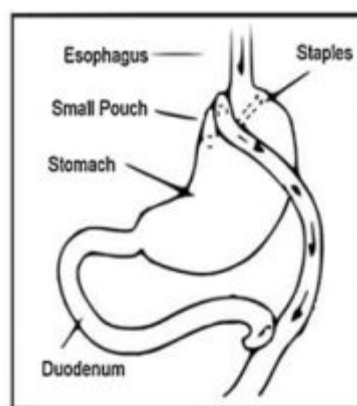
gastrectomy and gastric bypass surgery (see diagram below) are the most popular and the most effective at correcting diabetes.

Several factors, altered after surgery, contribute to diabetes reversal, including changes in hormones produced in the gut when food is detected and released into the bloodstream. Protein YY (PYY) is a gut hormone which works to reduce appetite and food intake by working in the centres of the brain that regulate hunger. However, we have recently shown that PYY is also

crucial in improving the function of the pancreas after weight loss surgery. **Insulin** is produced by the islet cells in the pancreas and a reduction in insulin amount, combined with reduced response to insulin within the body ("insulin resistance") is an important factor in Type 2 Diabetes. However other hormones produced in the pancreatic islets also have an effect in diabetes - particularly **Glucagon**, which is produced when blood sugar



sleeve gastrectomy



Roux-en-Y-gastric bypass

---

drops and stimulates the liver to release glucose. Glucagon levels are also deranged in Type 2 Diabetes and it is the coordinated release of these key hormones which work together to maintain blood glucose levels within the normal range.

After bariatric surgery the ability of pancreatic islets to respond to glucose and properly regulate the release of insulin and glucagon, is restored. We think this is at least partly due to post-operative elevation of PYY, as demonstrated by the fact that in experiments, addition of PYY to human pancreatic islets grown outside the body improves their ability to release insulin and to switch off glucagon at high glucose level.

Understanding the mechanism behind diabetes reversal after bariatric surgery might enable to develop new anti-diabetic drugs achieving the same metabolic benefits without surgical intervention. For example, the finding that the gut hormone PYY mediates some key anti-diabetic effects of bariatric surgery implies that a pharmacological agent enhancing PYY release or its action could provide an effective and non-surgical therapy for T2D.

---

## Supporting people with diabetes through digital technologies: research and opportunities

*[Prof. A. Farmer]*



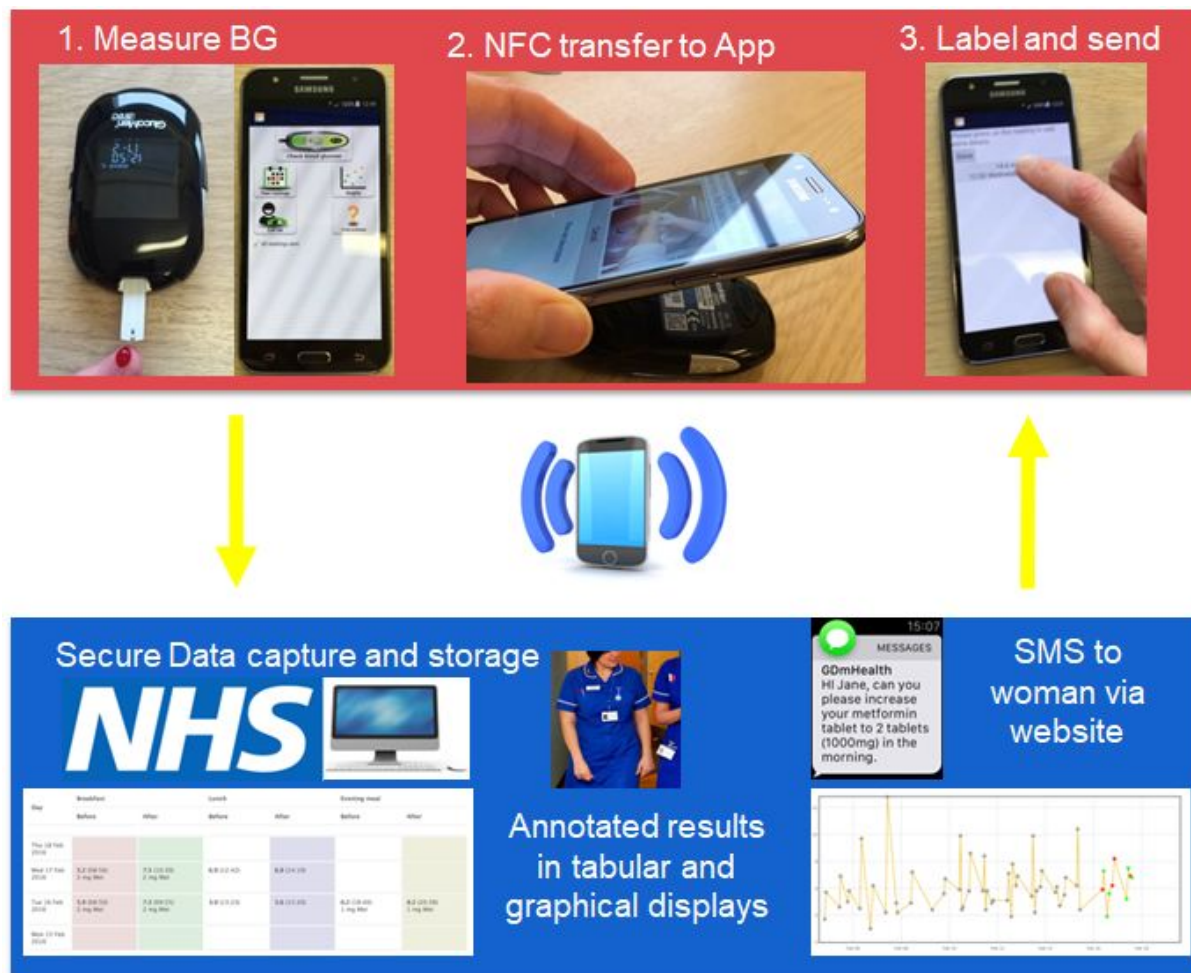
Prof. Andrew Farmer

Professor Andrew Farmer is a GP and researchers who has been working for many years on projects to use digital technologies to assist with management of diabetes. He presented some of his past and current research to us at the meeting.

Use of remote monitoring technology can allow health care professionals to offer advice on medication adjustment. This has been particularly successful for the Diabetes in pregnancy

App. Women with gestational diabetes are asked to monitor blood glucose 6 x day and their blood glucose data is transferred via mobile phone to the hospital, where the midwife can keep an eye on the results. They can then message the patient to modify their medication without the need for frequent clinic visits. This App, developed in the JR Hospital, has now been commercialised.

Remote systems can also nudge people to increase their medication for Type 2 diabetes or hypertension according to a pre-set algorithm. The same Apps can also be programmed to send motivational text messages to encourage adherence with medication. This has been trialled in the very different health care settings of the UK and South Africa. Finally there is even an App now to help us develop better sleeping habits! This could improve both well-being and metabolic health.



---

## Final remarks *[Prof. K. Owen]*

*Thanks again to all who attended the meeting which we hope you found interesting, and to the speakers. Our local researchers are also grateful for your online input to various projects. There are some requests attached to this Newsletter. Please let us know if you have any suggestions for topics to discuss at the meeting.*



Prof. Andrew Farmer

---

## FROM PATIENTS' EYES *[Dr. M. Pontecorvi]*

All patients in the group are welcome to submit a short comment they may want to share about their experience in the group, the meeting, other involvements they may have across the numerous and different PPI bodies and organizations. Thanks to the comments already received

If interested, please contact Marco Pontecorvi ([marco.pontecorvi@ocdem.ox.ac.uk](mailto:marco.pontecorvi@ocdem.ox.ac.uk)), thanks.

---

## Feedback Request *[Dr. M. Pontecorvi]*

If you have any feedback on the meeting (if you attended), this newsletter or the NIHR/BRC website, please do feel free to contact me at [marco.pontecorvi@ocdem.ox.ac.uk](mailto:marco.pontecorvi@ocdem.ox.ac.uk) and discuss any suggestion you may have. Also, if you wish to participate to the next edition of the Newsletter you are very welcome to contact me as well. Thanks!

---

# More News

---

## **SAVE THE DATES! Calendar and dates for 2018-2019 meetings**

**Tuesday 18<sup>th</sup> of June 2019 Meeting #6**

**+ NEW DATES 2019-2020**

**Tuesday 8<sup>th</sup> of October Meeting #7**

**Tuesday 28<sup>th</sup> of January Meeting #8**

All Panel meetings are still planned to run from **1:00pm to about 3:30pm**, and the results of our online survey, conducted during the last few months, seems to indicate that this time remains the most popular choice for the majority of our patients.

We are still open to evaluate different needs and we aim to propose again a similar poll in a few months time. However, for the next couple of dates we will keep our norm. If you have any feedback or suggestion as to the meetings dates or times please do send an email to [marco.pontecorvi@ocdem.ox.ac.uk](mailto:marco.pontecorvi@ocdem.ox.ac.uk) to discuss.

You will be kept informed on any development on the matter.

---

## **Further you will find information about the following:**

**The TriMaster Trial**

**Feedback request for a new Research Project (Documentation attached to the email))**

# TriMaster

A research study to help improve treatment of type 2 diabetes, by learning how individuals respond to different blood sugar-lowering drugs



Would you be willing to try three regularly prescribed diabetes medicines over a year, to see which one works best for you and to help us improve diabetes care for others?

- Before you decide whether to take part, it is important to understand why the research is being done and what it will involve.
- Please take the time to read the following information carefully.
- You are free to decide if you want to take part in this research study.
- You can decide to stop taking part in the study at any time without giving a reason.
- Please ask us if anything is not clear or if you would like more information.

## Important things you need to know

The study will involve taking three standard diabetes drugs alongside your current medication: sitagliptin, canagliflozin and pioglitazone. They will be prescribed randomly, one drug at a time, for 16 weeks. There will be an appointment before starting each drug. Participation in this study will involve six visits over a year (2 x 30 minute visits, 3 x 60 minute visits and 1 x 3 hour visit) The 30 and 60 minute visits may be able to be conducted at your home if you are unable to attend the hospital. We will ask you to provide blood samples to ensure you are safe and eligible to participate in the study. All the drugs will be made to look identical, so that you and the study team will not know which drug you are taking. A dedicated team will be available to help if you suffer any side-effects and your doctor needs to find out what you are taking.

**If you would like to find out more information about the OPTION-DM TRIAL, please contact** Viv Thornton-Jones [Vivien.thornton-jones@ouh.nhs.uk](mailto:Vivien.thornton-jones@ouh.nhs.uk) or Nicky McRobert [nicky.mcrobert@ouh.nhs.uk](mailto:nicky.mcrobert@ouh.nhs.uk) OR telephone 01865 857511

---

## Cluster randomised multicentre trial to evaluate the utility of a validated digital decision support strategy for improved in-hospital glycaemic control for insulin-treated patients with type 2 diabetes

---

### FEEDBACK NEEDED!

Researchers at OCDEM would appreciate your feedback on the **attached summary** of a potential new study aiming to control glucose levels for patients with type 2 diabetes whilst in hospital. You can provide feedback either using the (attached) Word Document and sending it back to [marco.pontecorvi@ocdem.ox.ac.uk](mailto:marco.pontecorvi@ocdem.ox.ac.uk), or using the online form available [HERE \(https://goo.gl/forms/lqT3r7JLGhNbCRzm1\)](https://goo.gl/forms/lqT3r7JLGhNbCRzm1).

For more information please contact Dr. Jo Milton, Head of Clinical Research - Diabetes Trials Unit, at [joanne.milton@dtu.ox.ac.uk](mailto:joanne.milton@dtu.ox.ac.uk).