



RELEASED: Friday 31 August 2018

Catalyst, Beating Diabetes

Nutritionist Dr Joanna McMillan is on a mission to fight back against Type 2 diabetes, and tries out a personalised project on four Australians which could help the two million of us who are pre-diabetic

Interviews with host – Dr Joanna McMillan are available

Nutrition scientist Dr Joanna McMillan is driven to help people have healthy lives by making the right food choices.

She's on a mission to fight back against Type 2 diabetes, by targeting the two million Australians at high risk of developing the chronic illness. Many have no idea there is a silent killer brewing within, even less know there's a powerful pill-free solution at hand that's affordable and adaptable. In this Catalyst, Jo joins with leading scientists from the University of Sydney's Charles Perkins Centre to develop individual programs for four people on the edge of getting the disease.

Jo makes an Aussie favourite, vegemite on toast, to kick-start her day. Just half an hour after eating, her blood sugar level spikes to 8.4 – well over her normal 5.5. That's because white bread breaks down in the gut very quickly, sending glucose out into the bloodstream at a rapid rate. Normally, insulin is produced by the pancreas to balance blood sugar levels. Type 2 Diabetes occurs when the body can no longer do this. Lifestyle changes can help control the onset of Type 2, so Jo thinks she has some helpful tools and sets off to find some of the Australians at high risk of getting diabetes.

Jo looks for possible candidates at an event run by endocrinologist Dr David Simmons and his team from the University of Western Sydney for a screening day in Sydney's west, where locals and visitors can see if they're at risk. We find out what predisposes people to prediabetes and diabetes mellitus – such as ethnicity, genes, weight and age - and what tests are available to confirm a diagnosis.

As the day progresses, another retiree Ian, wanders in. He is recovering from major bowel surgery, but that's not the first bullet he's dodged. Years back, he overcame a battle with pancreatic cancer. No stranger to the consequences of chronic illness and spurred on by his brother's diagnosis with Type 2, Ian discovers he is also prediabetic.

Soon after, Andrew walks in after having his staple pie from his favourite bakery. He is a creature of habit who has eaten a meat pie for breakfast for more than a decade. He is overweight and a little curious. Although not officially prediabetic, he's at high risk and needs to change his diet and implement some exercise before it's too late.

People from far and wide come to the event and the results reflect the statistics, 1 in 6 Australian adults are prediabetic – many are unaware.



Amanda reaches out to Catalyst. She's about to turn 40, has three small children, and is over 100 kilograms. She knows what Type 2 entails as her mother has been diagnosed, and her estranged grandmother died in a diabetic coma. Her mother was part of the stolen generation, growing up in an orphanage in Darwin. She used to pack chocolate and chips in Amanda's lunchbox – a treat she never had. There are cycles to break for Amanda but with her hectic lifestyle, she struggles with the program.

Jo's next step is to meet the experts from the innovative Charles Perkins Centre at the University of Sydney - endocrinologist Dr Samantha Hocking, sleep specialist Professor Peter Cistulli, and exercise expert Nick Fuller. Dr Hocking sheds light on the ease and accessibility of interventions that people undertake to prevent diabetes. She points to the Diabetes Prevention Plan (DPP) - which demonstrates how losing as little as five to seven per cent of bodyweight and 30 minutes of physical activity five to seven times a week, can dramatically reduce your risk of developing Type 2 diabetes. She explains that at risk Australians can reduce their risk by 58 per cent by taking on these simple changes.

The experts are advocates of personalising the approach, because this helps people to stick it out long term and the intervention needs to be sustainable. Armed with the participant's profiles and expertise, their multi-pronged approach creates an individual program for each – based on the DPP. Goals are set, nutrition and exercise plans are written, and no gym membership is required.

Ann, Ian, Andrew and Amanda undertake baseline tests before the 10-week intervention program kicks off. This involves exercise tests to determine their resistance and fitness levels and DEXA scans, where two different energy levels of x-ray pass through the body and measure its composition such as different kinds of fat, muscle and bone.

The fat can be subcutaneous or visceral adipose (fat) tissue with the latter gathering around organs and often hard to detect. Protruding bellies and large waists are often an indication but in some cases like Ian, an outwardly slim man can have large amounts of visceral fat.

To add to this, all our participants have completed the Oral Glucose Tolerance Test. They've fasted for eight hours, had a blood sample taken, consumed a glucose drink and had more blood taken to determine their blood sugar levels and proximity to diabetes. As fortune would have it, Ann has caught her prediabetes in the nick of time – with her 10.8 reading soaring past the 7.8 requirement and up against the diabetic range of 11.1.

The participants kick off the program, integrating smarter food choices and consistent exercise into their day-to-day. Their individual challenges differ – what's an easy nutrition plan for one, is new frontiers for another – while physical limitations and old habits emerge as hurdles to navigate and surmount. Guided by Jo and supported by the brains trusts' collective knowledge, our participants combine science with commitment to achieve their goals. Support comes from surprising places with some participants getting perspective from front row seats of a sumo bout. Professional wrestlers are often used as a popular example of metabolically fit, while being obese. Due to their exercise regime, they have very little visceral fat, large muscle mass, and a healthy metabolic profile. We're also introduced to the culinary delights of a celebrity chef whose skills and personal experience with diabetes have made smart food choices enticing and diabetes-friendly.



BIOGRAPHY:

Dr Joanna McMillan is a nutrition scientist, accredited dietitian and health advocate who is driven to help people embrace healthier lives. In *Beating Diabetes*, Jo combines her talents to help Australians at risk of developing Type 2 diabetes and bring their health back from the edge. A proud ambassador for Diabetes Australia, Jo returns to Catalyst after hosting the three-part series *Gut Revolution*. With a passion for answering the tough questions amid a sea of information about diet and health, Jo has become a trusted health and wellbeing expert across the nation. Originally from Scotland, she completed her PhD in Nutritional Science at The University of Sydney and has made Australia home. Jo

draws on her experience as a dietitian and former fitness instructor to inspire individuals to love nutritious food and active lifestyles. Jo is an adjunct Senior Research Fellow with La Trobe University, founder of the Get Lean online lifestyle program, author of six books and has a weekly column 'My Day on a Plate' in *Sunday Life*.

PRODUCTION:

ABC Head of Specialist: Judith Whelan, ABC Manager of Science: Aidan Lavery.

For further information contact:

Bridget Stenhouse, ABC TV Publicity

02 8333 3847 | 0466 541 642 | stenhouse.bridget@abc.net.au