Sweet news for babies in DNA

Robyn Riley

DNA from a newborn's cord blood may help predict if they will develop type 2 diabetes as adults.

In a new study by the Baker Heart and Diabetes Institute with the Chinese University of Hong Kong, cord blood from 112 babies was analysed and found to accurately identify those at risk.

The babies' mothers had elevated blood-sugar levels during pregnancy.

"We know children born to mothers with elevated blood glucose and gestational diabetes during pregnancy face a greater risk of developing metabolic disorders like type 2 diabetes later in life," study co-lead Sam El-Osta said.

More than 1.2 million Australians live with type 2 diabetes, which has strong genetic links and environmental influences.

"Until now, identifying children most at risk has been difficult, and existing tools, such as birth weight, fat mass or cord blood insulin, have been limited in their ability to predict later-life development of the disease," Professor El-Osta said.

He said the success of the study meant clinicians would have a test that could determine future health problems to take steps earlier to reduce risks.

"This is the first time we've shown that epigenetic signals in cord blood can forecast long-term metabolic health," he said. "It changes the way we think about when we can intervene to prevent chronic disease later in life."

Professor El-Osta, head of the Baker Institute's epigenetics team, led the study with Professor Ronald Ma, from the Chinese University of Hong Kong. He said the team showed that the epigenetic signatures in cord blood improved prediction of metabolic disease by 79 per cent compared to traditional markers such as fat mass.

Epigenetic signatures are like notes on the DNA that influence how strongly genes are turned on or off. Changes can also happen due to diet, stress and blood-sugar levels during pregnancy.

$500k effort to protect Hobart rivulet

Giant 'litter trap' will help protect platypus

Gross pollutant trap being installed near tip face at McRobies Gully. Designed to limit the flow of litter and pollution into the Hobart Rivulet and protect wildlife.

Rob Inglis

An enormous litter and pollutant trap has been installed near the McRobies Gully tip as part of a $500,000 effort to protect the health of the iconic Hobart Rivulet and the beloved platypus who call the waterway home.

The cavernous underground concrete chamber below the tip face is designed to capture litter before it finds its way into the rivulet.

A huge concrete lid was lowered on to an 18-tonne diversion chamber buried deep in the ground on Wednesday, representing the final piece of the Hobart City Council's half-a-million dollar 'gross pollutant trap'.

Intended as a key defence against deadly litter including hair ties and plastics, which

can pose a serious strangulation risk for the rivulet's resident platypus population, the trap comprises three cylinders and one diversion chamber and weighs a total of about 45 tonnes.

It can hold almost 10 cubic metres of litter, which is far superior to the capacity of the existing 'litter sock' located downstream.

The gross pollutant trap also has the capacity to capture smaller particles, sediment, and hydrocarbons compared to the sock.

A major rainfall event in 2023 in which a significant amount of plastics were released into the rivulet was a catalyst for the council's decision to invest heavily in the new trap.

Hobart Lord Mayor Anna Reynolds described the project as a "game-changer".

"We've been working on the ground here for well over a month and it has been a really significant piece of work," she said.

"But it really will stand the test of time and will be a much better approach to managing litter and pollutants going into the rivulet.

"And we will see a significant decline in litter and also in sediments and smaller pollution ... as well. So it'll make a really big difference."

Ms Reynolds credited "strong community voices", such as that of Pete Walsh, known as the Platypus Guardian, for persistently pushing for better platypus protections.

Hobart Lord Mayor Anna Reynolds, platypus guardian Pete Walsh, and Hobart councillor Ben Lohberger.

"It's really important that not only is the rivulet healthy for our bigger animals like the platypus, but also for those microorganisms that are so important for the health of a waterway," she said.

Mr Walsh said there was a time about two years ago when an average of 1-2 platypus were found with 'loop litter' around their bodies and most of these incidents were recorded below the McRobies outfall in the rivulet.

BHP and Rio Tinto CEOs with Donald Trump at the White House.

BHP boss trumps Albo with White House

Lachlan Leeming

Prime Minister Anthony Albanese's inability to secure a meeting with President Donald Trump has been thrown into the spotlight again, after the US President hosted the CEO of Australian mining giant BHP in the White House.

As business bodies gather in Canberra for the second day of the economic roundtable talkfests aimed at sparking Australia's sluggish economy, Mr Trump pledged real action for a major copper project being pushed by BHP in a joint venture with Rio Tinto.

The President posted details about the meeting to his Truth Social account, where he threw his support behind the Resolution copper project proposed for Arizona, which has been delayed due to a court action.

"A Copper Mine in Arizona, 'Resolution,' was just delayed by a Radical Left Court for two months – 3,800 Jobs are affected, and our Country, quite simply, needs Copper – AND NOW!" he wrote. "Those that fought it are Anti-American, and representing other Copper competitive Countries. We can't continue to allow this to happen to the U.S.A.!"

BHP CEO Mike Henry, who met Mr Trump alongside Rio Tinto CEO Jakob Stausholm and incoming Rio Tinto CEO – and Australian – Simon Trott, posted about the meeting on his LinkedIn.

"Earlier today, I had the privilege of meeting with US President Donald Trump," Mr Henry said.

Mr Trump and Mr Albanese are yet to meet more than nine months into the president's second stint as leader.

The pair been set to meet at a summit in June, only for Mr Trump to leave the day before.