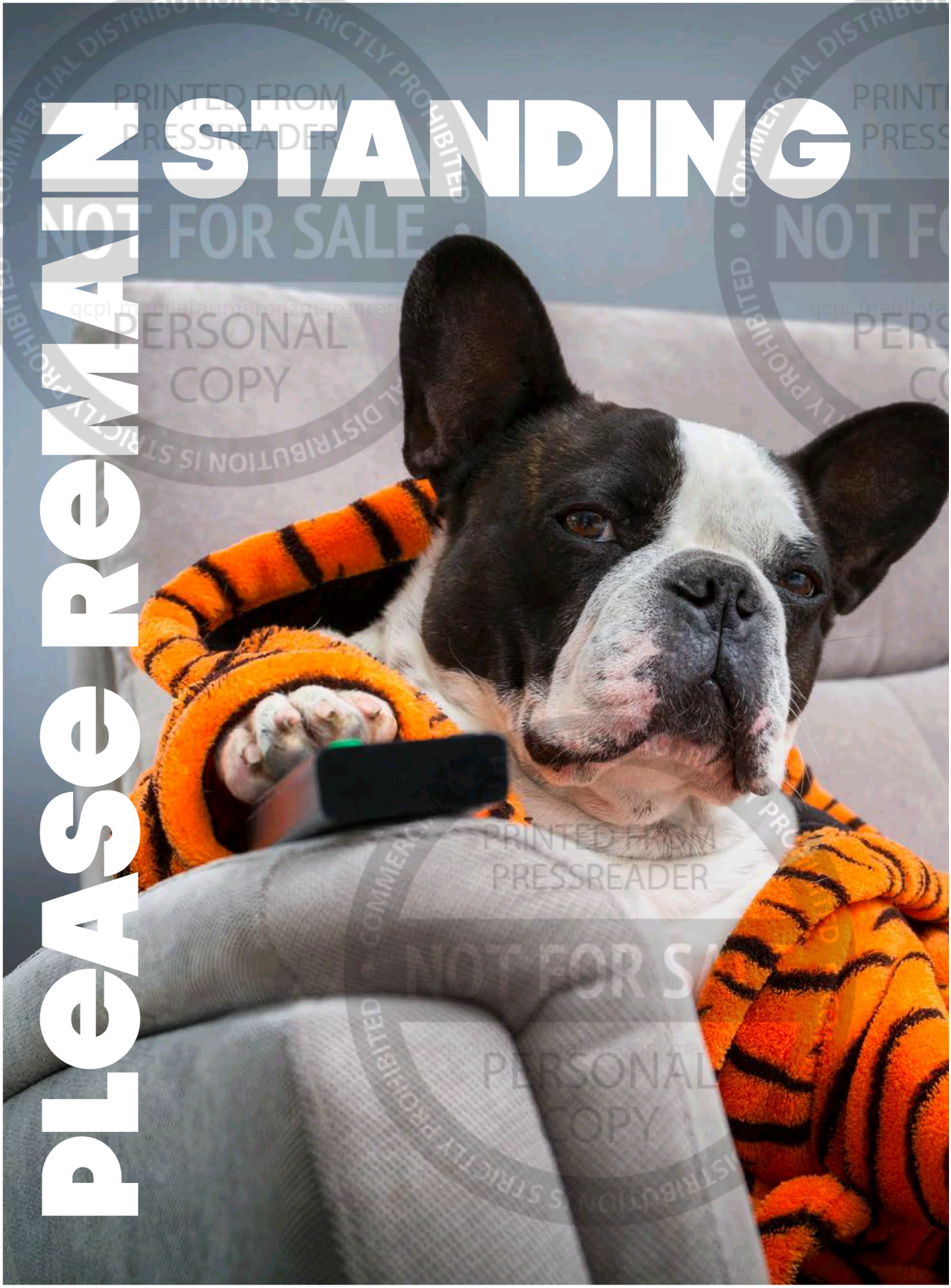
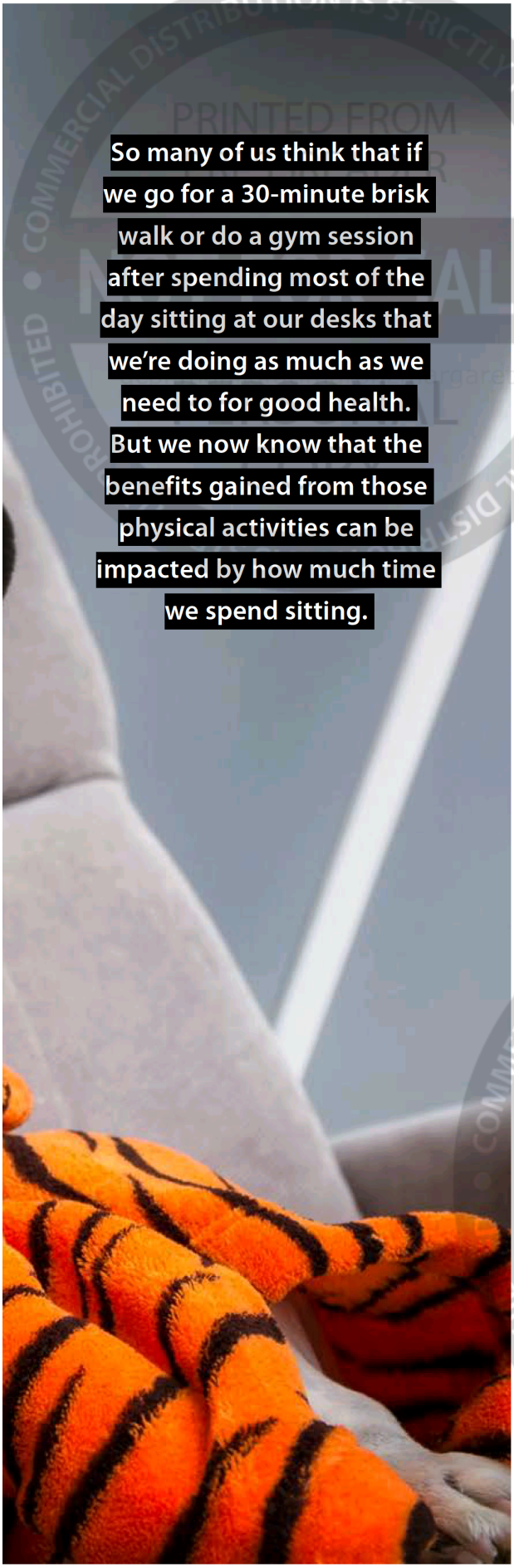
- Exercise / Sitting





So many of us think that if we go for a 30-minute brisk walk or do a gym session after spending most of the day sitting at our desks that we're doing as much as we need to for good health. But we now know that the benefits gained from those physical activities can be impacted by how much time we spend sitting.

We need to be asking ourselves how much time we spend sedentary throughout the day as well as how much physical activity we're doing, explains Head of the Baker-Deakin Institute for Physical Activity Professor David Dunstan, in order to draw a more accurate picture of how healthy our lifestyle really is.

Is just doing exercise enough?

We've long been told by our GPs and health professionals that we need to get more exercise on multiple days of the week for general good health and to help manage disease, including type 2 diabetes.

However, now we know that the benefits of physical activity – including what you get out of that exercise – is, in fact, related to how much time you also spend sitting during the day.

If, for example, you were seated for nine hours then did half an hour of exercise, obviously there'd be health benefits from that physical activity, but the nine hours spent seated beforehand can undo some of the positive effects of the exercise.

We have recently published the most comprehensive review of research into the physiology of sedentary behaviour, finding that prolonged and uninterrupted time spent being sedentary – including sitting at our work desks for hours at a time or sitting watching TV for long periods – contributes to insulin resistance, vascular dysfunction, increased total body fat mass, and inflammation, among other things.

Studies have also shown that reducing or interrupting sedentary behaviour with activity improves body composition, metabolism and cardiovascular health outcomes. So, while exercise is clearly good for you, it's important for our health and well-being to manage both of these health risk behaviours.

Put simply, we have to break up this accumulation of sitting time to restart our muscles' engines and reduce those health risks by regularly standing up and, ideally, moving around. The underlying message is that we need to identify opportunities throughout the day to sit less, move more and get some exercise.



HEALTH RISKS AND SEDENTARY BEHAVIOUR

Sedentary behaviour is defined as any waking behaviour characterised by a low energy expenditure while sitting or lying down. It occupies a high proportion of adults' waking hours and is associated with an increased risk of early mortality and chronic diseases, including obesity, cardiovascular disease, certain cancers, and type 2 diabetes.

Research has also shown that acute exposure to prolonged sitting – about 13.5 hours per day and less than 4000 steps per day – not only prevented the traditional exercise-related benefits in the body's circulating fats after eating, but it also prevented improvements in post-meal blood glucose and insulin responses in healthy adults. For people living with type 2 diabetes, reducing and breaking up sitting time with activity has been found to have beneficial effects on important markers like blood glucose control and insulin levels.



What we need to do

So, what should we do? The holy grail is to sit less, move more and get some exercise. But firstly, we need to ask ourselves how much time is spent sedentary alongside how much physical activity we are doing. Our doctors are encouraged to begin asking this question too.

If you determine that you spend less than four hours sitting per day and participate between 30 and 60 minutes of physical activity each day, based on the current scientific evidence, your risk of early death would be considered low, however, increase that sedentary time to between four and six hours, and your risk increases to low-medium, or an increased risk of 1 – 15%.

If you exercise for less than five minutes a day and sit for less than four hours, you're at medium risk, but if your sedentary time is eight hours – a working day – your risk of early death is high, in fact, about 45% higher.

If you're not currently managing to do any exercise, the evidence clearly suggests that you should be. Those many health benefits that can stem from doing some exercise are clear. It might be helpful to use a stepped approach if you're new to exercising, and gradually build up to increased physical activity. Your starting point should be sitting less.

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HOW TO MOVE MORE

There are some simple ways to help you break up sedentary behaviour:

- If you're desk-based, try moving your bin or printer further away from your workstation, forcing you to get up more frequently.
- Drink from a small water glass, encouraging you to get up to fill your glass more frequently.
- Set an alarm for every 30 minutes to remind you to get up and move around.
- Take walking meetings at work or stand up for an agenda item during an office-based meeting.
- If you're driving for long periods, pull over and stand up when you hear the news bulletin on the radio or when your podcast ends.
- Wear a smart watch and listen to its alerts that it's time to get up and move.
- Invest in a standing desk.
- Stand up when the ads are on if you're watching commercial TV.

CURRENT RESEARCH

Currently, 280 Australians develop diabetes every day — that's one person every five minutes — and type 2 diabetes prevalence is particularly high among middle-aged and older workers. We are also seeing a rise in sedentary behaviour since working from home has became more commonplace.

Given we know that higher levels of sedentary behaviour are linked with an increased risk of type 2 diabetes and that it significantly impacts the effective management of it, our physical activity experts at the Baker Heart and Diabetes Institute are conducting a study – the first of this kind – to help find solutions to address the increasing global type 2 diabetes burden.

We are recruiting desk-based workers living with type 2 diabetes to our OPTIMISE study in the hope that we can find a clear avenue to address our increasing diabetes burden and further understand its relationship with sedentary behaviour.

As part of the study, based in Melbourne, we hope to track whether reducing and breaking up sitting time helps with participants' glycaemic control. The six-month intervention portion of the trial involves health-coaching, use of a complementary sit-stand workstation and a physical activity app.



Information about how you can get involved can be found at baker.edu.au/research/clinical-trials/optimise-study

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