An in-depth summary of the Health Foundations for metabolic health

- **Nutrition**
- **Movement**
- **Sleep**
- **Mindset**

Nutrition Health Foundation

Nutrition refers to what, when, and how much we eat and drink. Of all the Health Foundations, nutrition probably has the greatest impact on metabolic health.

What we eat and drink is very personal. The food available to us, our dietary preferences, our emotions related to food, our physiology (how the body works), and our health goals all contribute to our food choices and what is best for us.

The effect different foods have on our health will also be affected by our other food choices and lifestyle factors.

There is no one-size-fits-all for nutrition, but there are some general principles that can guide helpful choices to improve metabolic health. These can be divided into those that will worsen metabolic health, and those that will improve it.

Nutrition factors that can worsen metabolic health

Sugar

All types of added sugar, with excessive fructose being particularly problematic.

Sugary drinks

This includes drinks with added sugar and sweet fruit juices.

Ultra-processed food

These are typically boxed and packeted foods that have multiple ingredients.

Refined carbohydrate

Starchy processed foods that are rapidly digest.

Excessive fat

A large intake of fat creates short term insulin resistance.

Regular snacking

Eating frequently between main meals.

Nutrition factors that can improve metabolic health

'Real food'

This is food that typically has minimal ingredients or is simply a single food. Real food has not been heavily processed in a factory.

Adequate protein

The body needs a minimum amount of protein. Eating protein reduces hunger.

Time restricted eating (Intermittent-fasting)

Eating within a shorter window of time in the day.

Personalise carbohydrate

For people with insulin resistance, it is often important to reduce the total amount of carbohydrate that is eaten.

Adequate hydration

Ensuring adequate water intake over a day.

Sugar

When we consider sugar in relation to metabolic health the key players are glucose, fructose, and sucrose (table sugar).

- Glucose and fructose are found naturally in some real foods as well as in many ultra-processed and packaged foods. A manufactured sugar called high fructose corn syrup is added to some ultra-processed foods.
- Sucrose is glucose and fructose joined together, which is digested back down to individual glucose and fructose sugars when eaten.

The smaller amounts of glucose and fructose in real foods are usually tolerated well by the body. It is when larger amounts of sugar are consumed over a prolonged period that problems can occur. This can drive insulin resistance.

Large amounts of fructose can be particularly problematic. Large amounts of fructose in nature is only found in sweet fruit and in honey. Fructose is very sweet and can be quite moreish and produce cravings. It is now present in many ultra-processed and packaged foods, sweets, and drinks. Research suggests large amounts of fructose directly causes insulin resistance, with nature's intention to help the body to gain fat. This fat-gain was fine in bygone days when fattening up for winter was important. However, with sugar now being so readily available all year round it is causing significant problems.

To improve health consider

- Reduce confectionary and sweet baked goods.
- Reduce ultra-processed foods that have added sugar or are high in sugar (review the ingredients list and the nutritional information)
- For people with significant insulin resistance, or those wanting to make greater health gains, it may be beneficial to reduce sweet fruits such as tropical fruits, bananas, grapes, and dried fruits.

Sugary drinks

Sugary drinks may be one of the most significant contributors to insulin resistance. This is due to:

- the amount of sugar in the drinks
- the amount of the sugar that is fructose
- the speed at which the sugar is absorbed from the gut
- how easy it is to drink a large volume of sugary drinks

Sugary drinks include many carbonated drinks such as cola and lemonade. It also includes fruit juices, which can contain the same amount of sugar as cola. Fruit smoothies can also contain a lot of sugar.

To improve health consider

- Reduce or stop adding sugar to drinks.
- Reduce or stop drinking sugary soft drinks.
- Reduce or stop drinking fruit juice.
- Reduce or stop sweet alcoholic drinks (cider, cocktails, sweet wines).

Ultra-processed foods

Ultra-processed foods have been significantly modified through factory processing. These manufactured foods will often come in a packet and have a list of ingredients. The ingredients list may include items that would not normally be used in home cooking.

There are many reasons ultra-processed foods can cause poor metabolic health, including:

- The food matrix has been destroyed. (In simple terms this means the food ingredients have been so heavily processed that at a microscopic level the food is in tiny pieces. This means when the food is eaten it is rapidly digested and absorbed into our blood.)
- They often contain a large amount of sugar and refined carbohydrate.
- The food may be low in fibre.
- There may be additives that could interfere with gut bacteria (more research is needed to understand the relevance of this).
- The foods are often low in protein.
- It may be easy to overeat ultra-processed foods, even when not hungry.

Ultra-processed foods a major component of the UK diet. Over half the food eaten in the UK is ultra-processed. This is because they are engineered to be tasty, they are relatively low cost, and they are often heavily marketed.

Because ultra-processed foods are so easily available it may require some determination and attention to minimise them.

To improve health consider

- Reduce packaged convenience foods that have a long list of ingredients.
- If our ancestors would not have recognised the food, then stop and consider if it could be ultra-processed.
- Be aware that some ready meals may appear heathy but they are often ultra-processed.

Refined carbohydrate

Refined carbohydrates are starchy foods that have been processed leading to removal of fibre, vitamins, and minerals. They may also have been milled or broken up. Examples include flour and flour-based products, white rice, and many breakfast cereals.

When refined carbohydrates are eaten the starch content is rapidly broken down to glucose sugar which then surges into the blood. The effect of eating refined carbohydrate is very similar to eating pure glucose sugar.

To improve health consider

- Whenever possible ensure carbohydrates a non-refined. For example, having wholegrain rice instead of white rice.
- If refined carbohydrates are eaten, eat a smaller amount.
- Minimise meals that solely consist of refined carbohydrate (e.g. breakfast cereals, toast and jam, crackers and biscuits)

Excessive fat

Natural fats that come as part of whole real foods are well tolerated by most people. However, a sudden large intake of fat will create a short-term increase in insulin resistance for 12-24 hours. This may not be a problem if sugar and refined carbohydrates are avoided at this time. But combining a large intake of fat with a large intake of sugar and other carbohydrates can be more problematic – this triggers large amounts of insulin to be released thus increasing fat storage, leading to insulin resistance.

Interestingly, there are very few foods in nature that are high in both fat and carbohydrate. The only natural foods where this occurs is nuts and milk. Both nuts and milk are likely to drive weight gain when consumed in larger amounts, as nature may have intended.

Some people may follow a diet that is lower in carbohydrate. In this case, it may be possible for the body to tolerate a higher fat intake without causing an insulin resistance problem.

To improve health consider

- Be cautious when adding pure fats to foods, the total amount being consumed may need to be reduced.
- If eating a large amount of fat avoid eating a large amount of carbohydrate at the same time or soon after.
- Be cautious about many ultra-processed and packaged foods. Many of these have a high combined fat and carbohydrate content.

Regular snacking

When we eat, food is digested then passes from the gut and into the blood. The fuel from this food then needs to be removed from the blood. Insulin plays the major role in instructing the body to move excess fuel out of the blood and into the body's stores.

Eating frequently, with snacks between meals, means insulin is being frequently released. This leads to increased fat storage and insulin resistance.

To improve health consider

- Reduce snacking between meals.
- Are you snacking because you are hungry or is it due to habit, boredom, cravings, or temptation?
- Make snacks less easily available.

Real food

More than half the food eaten in the UK is ultra-processed. Which is why it is important to pay attention to what we eat. ‘Real food’ is a phrase that is used to describe food that is unprocessed or minimally processed.

Some features that help to identify ‘real food’:

- It looks like food our ancestors would have recognised.
- It doesn’t need an ingredients list (broccoli or chicken don’t have ingredients), or if there is an ingredients list, it typically has less than 4 or 5 ingredients.

Focusing on eating ‘real food’ means you are unlikely to consume a lot of sugar or refined carbohydrates. The food you are eating will contain important micronutrients (vitamins and minerals). ‘Real food’ is also more likely to suit how our digestive system works and will not contain additives.

To improve health consider

- Aim for at least 80% of your meals to be real food.

Adequate protein

Adequate protein in our diet is important for our body's growth, maintenance, and repair needs. Adequate protein also helps us to feel full.

What is protein?

- Protein is one of the macronutrients in our diet.
- Protein is made up from smaller sub-units called amino acids. There are some amino-acids that are essential for us to eat because our body cannot make them.
- Protein, and its amino acids, are the 'building blocks' for every single part of the body. Protein can also be used as a fuel for the body if needed.

How much protein should we eat?

There is a minimum amount of protein needed in our diet. The recommended minimum amount of protein is about 0.8 grams per kilogram of ideal body weight per day. For example, someone whose ideal body weight is 60kg should eat at least 48g of protein each day.

The suggested ideal amount of protein is a bit higher. Approximately 1 to 2g of protein per kg of ideal body weight is suggested, especially if weight loss is a goal. There is evidence that we should eat towards 2g of protein per kg of ideal body weight as we age to maintain muscle. People exercising a lot, and trying to gain muscle, may benefit from up to 3g of protein per kg of ideal body weight.

To improve health consider

- Eat protein at every meal.
- In practical terms, adequate protein means protein foods should be prioritised at a meal.
- Protein is typically more expensive than carbohydrate and fat, and there is no benefit in overeating protein.

Time restricted eating (Intermittent fasting)

Time restricted eating, or TRE, is a concept that has become increasingly popular. It is also known as intermittent-fasting.

The purpose of TRE is to give the body a longer period when there is no fuel coming in from consumed food. When food has not been eaten for a few hours the body's insulin level will fall. When insulin falls, the body can start to burn some of its own stored fat and sugar. This can help to improve insulin resistance.

There are a range of TRE approaches that people may take. Each can be adapted to suit individual preferences and daily activities.

16:8

All food is eaten in an 8-hour window, and no calorie containing food is eaten over a 16-hour period.

18:6

All food is eaten in a 6-hour window, and no calorie containing food is eaten over an 18-hour period.

20:4

All food is eaten in a 4-hour window, and no calorie containing food is eaten over a 20-hour period.

One meal a day

All food for the day is eaten at a single meal, and no calorie containing food is eaten outside of this time.

To improve health consider

- Review your daily routine. What pattern of TRE would suit you best?
- Be careful about eating a large meal just before bed as this can impact on sleep quality.

Personalise carbohydrate

If someone has signs of significant insulin resistance and they wish to improve it, a reduction in the amount of carbohydrate they eat may be important. A reduction in carbohydrate can also be helpful for people that have reasonably good metabolic health but have some improvement goals. Reducing carbohydrate can often be very affective at helping weight loss and reducing belly fat.

There is no one-size-fits-all approach. The amount of carbohydrate that will suit someone needs to be personalised. However, for the past few decades, diets have typically contained approximately 250-300g of starchy carbohydrate and sugar per day. For someone that is insulin resistant this will pose a significant challenge to their body, placing the body at war with itself.

Why can carbohydrate be a problem?

When someone with insulin resistance eats a lot of carbohydrate it will cause a significant challenge to the blood sugar level.

Starchy foods are digested by our gut into glucose. The glucose then passes from the gut into the blood, raising our blood sugar level. The body responds to this by releasing insulin to bring the blood sugar level back down. If someone is insulin resistant the body will need to release more insulin. This whole process creates a vicious cycle that will worsen insulin resistance, put the body in a state of continuous fat storage, causing weight gain and frequent hunger.

Starchy carbohydrate foods include most ultra-processed foods, rice, bread, potatoes, pasta, and breakfast cereals.

To improve health consider

- Personalise carbohydrate intake based on your level of insulin resistance and the goals you wish to achieve.
- There are a variety of low carbohydrate diets that can be followed. Low carbohydrate diets means eating less than 130g of carbohydrate a day, and sometimes a much lower amount.

Adequate hydration

How much water we need to drink is very dependent on how much water we are losing in our sweat, urine, and breath.

Our body needs to maintain the water balance within a tight range. When the amount of water in our body starts to drop this is sensed in our brain. The brain then releases a hormone to instruct our kidneys to keep water in the blood and make less urine.

Another consequence of dehydration is our bowel extracts more water from our gut, which can lead to harder stools and constipation.

There is some research that suggests dehydration will increase insulin resistance. Although, it is difficult to be very specific about the effect it will have on us individually.

There is no definitive instruction on how much water we should drink. The often quoted 6-8 glasses, or 2 - 3 litres of water are just estimates. Generally, we can trust our thirst as an indicator of need to drink. If thirsty we should drink more water. However, sometimes the busyness and distractions of life can lead to us not drinking enough water.

To improve health consider

- Make sure you have easy access to water.
- If you are busy and often notice that you are very thirsty later in the day, then create habits to increase your water during the day.

Movement Health Foundation

Movement refers to moving the body. This is sometimes called physical activity or exercise, but also includes daily general activity.

Lack of movement and lack of challenging the body's muscles leads to a gradual decline in metabolic health.

Metabolic health is aided by three key types of movement. These are:

- moving regularly
- challenging big muscles
- challenging the cardiorespiratory system (lungs, heart, and blood vessels).

In addition, rest is important especially after episodes of more intensive movement.

Movement can be divided into factors that worsen metabolic health, and those which improve it.

Movement factors that can worsen metabolic health

Being sedentary

Spending prolonged periods of time, whilst awake, sitting or lying down.

Over-training

Excessive physical activity with inadequate rest.

Movement factors that can improve metabolic health

Regular movement

Light activity for a few minutes every hour or so.

Resistance activity

Challenging the muscles of the arms, legs, and buttocks for a short period.

Aerobic activity

Activity that causes an increase in breathing rate and the heart to beat faster.

Being sedentary

Being sedentary means not moving from the sitting or lying position whilst awake, for prolonged periods. Sleep time is not considered being sedentary.

When the body is sitting or lying, we are not moving the large muscles in the arms, legs, and buttocks, nor are we challenging our cardiorespiratory system (heart and lungs).

There is no known “safe sitting time”.

with sugar now being so readily available all year round it is causing significant problems.

To improve health consider

- Consider what types of daily activities make it more likely for you to be sedentary. Examples include watching television, or working at a computer?
- How might you change your activities or day to reduce the risk of not moving?

Over-training

Over-training is a risk for people that enjoy doing a lot of physical activity and for people that lead very busy lives with limited time for adequate rest.

Whilst physical exertion is generally good for improving insulin resistance and metabolic health it is also a stressor. As with all stressors, excessive amounts of exercise will over-challenge the body and create a detrimental stress effect. Inadequate rest will worsen this by not allowing repair and recovery time.

To improve health consider

- If you are doing frequent intensive exercise, ensure it is balanced with adequate rest. Recall the phrase “You get fit when you rest.”.
- Reduce the intensity or duration of intensive exercise.
- Many wearables track activity and measure how relaxed the body is when asleep. This information can provide a helpful indicator about whether exercise intensity, duration, and frequency need to be reduced.

Regular movement

Research indicates it is beneficial for our health to move for at least one or two minutes every hour or so. This does not have to be strenuous exercise. It could simply be pottering around. Any activity that gets the limbs moving is sufficient.

To improve health consider

- Make a habit of breaking up sedentary time. Initially this could be aided by setting an alert on a phone.
- Do some “micro-workouts” through your day. These are very short bursts of activity such as a few squats or press-ups.

Resistance activity

Using big muscles will lead to an improvement in insulin resistance and metabolic health.

Challenge to the body's big muscles provides multiple benefits. This includes providing a space for excess glucose in the blood to go. In addition, muscles release anti-inflammatory chemicals which is good for the metabolic health.

Challenging the muscles in the arms, legs, and buttocks once or twice a week will encourage the muscles to grow, this is known as hypertrophy. The challenge needs to be more than that of everyday life. However, it does not need to be seen as a chore. Just a few minutes of intensive muscle fatiguing resistance activity will have a benefit.

There are many ways to build resistance activity into your life. This can include heavy gardening or housework, carrying heavy shopping, doing a sport or going to the gym, or simply doing some body weight exercises.

Body weight resistance activity is easy to do and needs no equipment. A set of 10 slow leg squats, whilst holding the back of a chair or countertop if needed, is a very effective exercise. Similarly, press-ups are a simple exercise for the arms. These can be made easier by doing them standing whilst pressing against a wall.

The key to getting maximum benefit from resistance exercise is to try to completely fatigue the muscles within about 20-60 seconds. Completely fatiguing muscles means you are not keen, or not able, to do more without a rest. Doing 3 sets of a resistance activity with a very short break, perhaps 15 seconds, between each set is a commonly used effective routine.

To improve health consider

- Undertake some challenging leg and arm resistance activity, for at least a few minutes, once or twice a week.
- Squats are a simple and quick resistance activity for the legs and buttocks.
- Press-ups are a simple and quick resistance activity for the arms and shoulders.

Aerobic activity

Aerobic activity, sometimes known as cardiovascular (CV) exercise, is a form of physical activity that involves movement of our big muscles, with an increase in our heart rate, speeding up of our breathing, and performed for a longer period.

The word aerobic means 'using oxygen'. This means aerobic activity is being done at a pace and intensity where oxygen is being used to help metabolise or 'burn' fuel to release energy to power the activity. Examples of aerobic activity include walking, cycling, swimming, running, dancing, and many other sports. It can also include many daily activities and hobbies such as housework and gardening.

Aerobic activity can be classified as moderate, vigorous, and very vigorous. The activities and intensity that fall into each of these three classifications is individual to a person. What is moderate for one person may be vigorous for another, such as a brisk walk or swim.

The Talk-Test is a simple measure to determine if an activity is moderate or vigorous intensity.

- Moderate intensity: The person can still talk in full sentences. They will have noticed their breathing has increased and they will be getting warmer.
- Vigorous intensity: The person will no longer be able to complete a sentence without taking a breath. They will be breathing much harder and they will be hot.
- Very vigorous: This is short busts of intense all-out effort. This intensity of activity can only be performed for a very short period, perhaps 30 seconds to a few minutes, before a rest is needed. Types of very vigorous physical activity may include sprinting and high-intensity interval training (HIIT). HIIT only takes a small amount of time and there is growing evidence that HIIT can provide significant health benefits.

Any activity that requires effort needs to be for a reason and ideally enjoyable. For some people knowing the health benefits of aerobic activity will be reason enough. Importantly, aerobic activity can be enjoyable and enhance our daily life and mood.

Build aerobic activity into the day, make it a habit, and notice the short-term benefits. Even a few minutes is beneficial.

To improve health consider

- Exercise should not be a chore, so choose aerobic activities you enjoy. Examples include walking, swimming, cycling, running, sprinting, rowing, and many sports.
- Aim to do some aerobic activity for at least 10-15 minutes every day.

Sleep Health Foundation

The quality and quantity of sleep is important for metabolic health. Sleep is essential for repair, recovery, and restoration.

During refreshing sleep the body moves into a more relaxed state. The nervous system switches into repair and recovery mode, and maintenance processes happen in the brain.

Sleep plays a central role in the control of hormones and blood glucose.

There are sleep factors that can worsen metabolic health, and factors that can improve it.

Sleep factors that can worsen metabolic health

Alcohol

Alcohol can prevent sleep moving into a relaxed and restorative state.

Late screen time

Looking at a bright screen (mobile, computer, TV) in the run up to sleep time.

Late caffeine

Ingestion of caffeine later in the day.

Late eating

A large meal shortly before bedtime.

Late (intensive) exercise

Intensive exertion within 2 hours of bedtime.

Sleep factors that can improve metabolic health

Allow adequate time

Prioritising adequate time to sleep, approximately 7-9 hours.

Regular timing

Maintaining sleep time and wake up time at approximately the same timings every day.

Pre-bed wind-down

Becoming ready to sleep with a routine prior to bed.

Morning routine

A routine that supports the body clock with natural wake up and sleep timing.

Alcohol

Alcohol can have a significant impact on the quality and quantity of sleep. The amount of alcohol required to disrupt sleep will vary for different people, however small amounts of alcohol can be detrimental to many.

Some people may find that alcohol helps get them to sleep, however this does not necessarily mean the sleep will be refreshing. Alcohol causes a stress response and activation of the body's fight and flight nervous system, preventing deep and refreshing sleep. Alcohol can also cause earlier waking than is ideal, even if a person is still tired.

To improve health consider

- Have at least some alcohol-free days in the week,
- Reduce the amount of alcohol consumed. For some people even a single alcoholic drink can adversely affect sleep.

Late screen time

Screen-time from mobile phones, computers, and televisions present a range of problems for sleep. These include:

- Distraction from attempting to go to sleep.
- Stimulation of the mind when it should be moving into a sleepy state. This may be particularly problematic if screens are used in bed.
- Blue light emitted from screens. It is thought this can trick our brain into thinking it is daytime and thus not the time to go to sleep.

To improve health consider

- Turn screen devices off in the earlier evening.
- Keep mobile phones out of the bedroom.
- Use an app that removes blue light from the screen in the late evening.

Late caffeine

Caffeine is well known stimulant found in coffee, tea, soft-drinks, and chocolate. Caffeine is thought to interfere with sleep by blocking a chemical called adenosine in the brain. Adenosine is an important promotor of sleep.

People have very different tolerances to caffeine. Some people are very sensitive and just small amounts of caffeine can create over-alertness and inhibit sleep. Other people are genetically “fast-metabolisers” of caffeine and have no problem having a late evening coffee and then going to sleep. Knowing how you respond to caffeine is important.

To improve health consider

- Do not drink caffeine containing drinks after early afternoon.
- Reflect on whether you need caffeine to keep you awake through the day. If so, what do you need to change so that you are not always tired and needing caffeine to get through the day.
- Consider if it would be better for you to stop caffeine entirely. Caffeine may be addictive for some people, if so know that it gets easier to avoid as time passes.

Late eating

A large meal late in the evening can create a mild stress on the body. This can prevent the body moving into a relaxed state with refreshing sleep. This delay in reaching a relaxed state can last for 3-6 hours.

In an ideal world it would perhaps be best for large meals to be eaten no later than the afternoon. However, there are a range of factors that influence the time of day we eat, so it is important to personalise what works for you.

To improve health consider

- Eat your main meal earlier in the day, with a smaller meal in the evening if needed.
- When possible, ensure the evening meal is eaten at least 2 hours before bed.

Late (intensive) exercise

Exercise is generally considered helpful for insulin resistance and metabolic health. However, late-evening intensive exercise can activate the body's fight and flight system and dampen the repair and recovery system.

Ideally intensive exercise should occur in the morning or afternoon, whilst lighter non-strenuous exercise can be enjoyed in the evening.

To improve health consider

- If exercising in the evening, try to make it relaxing and enjoyable rather than intensive.
- Where possible undertake all strenuous exercise in the morning or early afternoon.

Allow adequate time

Allowing adequate time to get enough sleep is essential. Sleep should be viewed as restorative, not as a waste of time.

Most adults require between 7 to 9 hours sleep. For some people 6 hours may be sufficient, whilst others may need 10 hours.

Getting adequate sleep is important. However, it is equally important not to worry about insufficient sleep and insomnia. A helpful perspective is to “prioritise sleep, but don’t worry about it”.

Giving enough time to get the amount of sleep you need is what you have most control over. Even if you don’t sleep you did what you could to aid it.

To improve health consider

- Work out what time you need to get up, subtract the amount of sleep you need, and plan your bedtime to suit that. For example, if you need to get up at 7am and you know that 8 hours of sleep suits you, then you need to be ready to go to sleep at 11pm.

Regular timing

We have a natural body clock that controls many processes including our sleep timing. Keeping to a regular bedtime and wake up time is helpful for assisting us in falling asleep.

An appropriate sleep routine can support the ideal situation of waking up from sleep feeling refreshed without needing an alarm clock.

Shift-working, and other life demands can prevent regular bed and waking times. This may at times cause disrupted or inadequate sleep. In these circumstances it is best to do what is possible and not be concerned about achieving perfection.

To improve health consider

- Aim to get to bed within the same hour each day.

Pre-bed wind down

Preparing the body and mind for sleep in the 30-60 minutes prior to bed can assist in in falling asleep. This wind-down period ideally involves doing activities that aid relaxation, and where possible avoiding stressors.

What works to help people relax will vary. Ideas range from reading, having a bath, some gentle exercise, mindfulness or meditation, or writing a to-do list for the next day (so the thoughts can be put to rest for the night). Whatever the actions they should provide a sense of relaxation.

To improve health consider

- Develop a simple routine that aids relaxation for the 30-minutes prior to bedtime.

Morning routine

What we do in the morning can have an impact on what time we will fall asleep in the evening. Research suggests that daylight plays a role in adjusting our body clock and setting a sleep stopwatch.

When we are exposed to daylight it hits the retina at the back of our eyes. The blue light in the daylight landing on the retina sends a signal to our brain, influencing the body's master clock. This process sets a count-down timer of approximately 16-hours leading towards us becoming tired and being ready to sleep.

To improve health consider

- Try to get outside into daylight in the first hour of waking in the morning.
- In darker winter months using a daylight lamp for 15 to 20 minutes in the morning may have a benefit.

Mindset Health Foundation

Mindset means your way of thinking, your beliefs, and how you respond to information and events.

A feeling of chronic stress can drive worsening in metabolic health. The stressors we experience and how we respond will influence the degree of chronic stress we experience.

Conversely, a mindset that provides a sense of control and certainty over our life can lower the risk of experiencing chronic stress.

Mindset aspects that affect chronic stress are:

- Our sense of self-worth and purpose.
- How connected and supported we feel with others.
- The perceived control, influence, and certainty we have over our life.

Each of these three areas can be influenced by a range of factors. The common theme to all the factors is how they influence our feeling of safety. If we feel like an outsider, with low self-worth, and no control or certainty in our life, our brain will perceive greater threat and heighten the stress response. Whereas if we feel part of a group, have a sense of self-worth, and have some control or certainty over our life, the threat and stress response is reduced.

Mindset factors can be divided into those that worsen chronic stress and metabolic health, and those that improve it.

Mindset factors that can worsen metabolic health

Being an outsider

Spending most of your time with others that do not share your goals, purpose, and values. Always working against the people around you.

Social isolation

Rarely interacting with other people.

Disempowering focus

Only noticing and focusing on negative, worrying, or stressful events that you have no control over. They cannot be changed or influenced by you.

Judgement of self

Thinking about yourself and your identity as good or bad. Judging yourself rather than your actions.

Mindset factors that can improve metabolic health

Connect

Spending time with people that share a common purpose and a sense of team and community.

Influence

Taking actions that have a positive effect on your life, surroundings, or other people.

Notice

Paying attention to actions and activities that create a feeling of accomplishment.

Helpful coping strategies

Having methods to manage short-term stress that could also have a positive impact on your future.

Being an outsider

Whether through choice or circumstance we will be in situations where it feels like the people we are with are not on “our side”. They may be actively trying to enter into conflict with us, or they may simply have different needs and beliefs.

Alternatively, we may sometimes decide that we are different from the people we are with and make ourselves feel like outsiders.

In both these situations our brain can sense potential risk because we are not in the safety of the “tribe”. Who will look after us if something goes wrong? Or worse, could the people around us be the direct threat?

To improve health consider

- Are you focusing on the differences between you and others rather than what you have in common?
- Can you take steps to avoid or reduce time spent with and the consequences of harmful and threatening people?

Social isolation

Humans are social beings. There are many elements of our make up that exist to enable us to interact with others.

Whilst some people may be quite content with their own company much of the time, others prefer to spend most of their time with other people. But the vast majority of people benefit from spending some time with others.

Research suggests that social isolation can lead to an increase in chronic stress. For some people living and working circumstances may cause them to spend most of their time on their own.

It may be important to actively seek out opportunities to interact with others to reduce social isolation.

To improve health consider

- Do you have, or could you develop, an interest or hobby that connects you with people?
- Are there people you could put more effort into contacting more frequently?

Disempowering focus

The part of our brain that spends its time looking out for threats is also interested in how much control or choice we have over bad events happening.

A constant focus on negative or “bad” events, that we have no control over, will trigger a heightened threat response in our brain. This is because our brain starts to believe harm could be around every corner, but we can’t control the threat or change the outcome.

There will be circumstances when it is completely appropriate for us to be on high alert for risks. However, at many other times it may be that we are not actually at risk but instead we are focusing our attention on events outside of our control, that don’t present immediate risk of harm to us.

To improve health consider

- Review what information you are spending most of your time focusing on. Are you spending an unhelpful amount of time focusing on worrying events that don’t directly put you at risk and that you have no control over? For example, watching the news multiple times a day. If so, consider reducing your exposure to this stress invoking information source.

Judgement of self

Judgement of ourselves can lead to us focusing on whether we are 'good' or 'bad'. Self-judgement, especially when it involves negative criticism of who we are or how we look, can create unhelpful thinking patterns and feelings of worthlessness. This can increase chronic stress.

The way others talk to us and how we talk to ourselves can influence our thinking patterns and mindset. Our early years can play a significant role in this.

To improve health consider

- Instead of judging yourself or others as 'good' or 'bad', consider viewing your behaviours as helpful or unhelpful. Try to use thoughts or language that focus on the behaviour and not yourself. The statement "That was an unhelpful thing I did." is less likely to cause low self-worth than the statement "I did that, and I am bad.".
- Consider this phrase:

  What I do is not good or bad, therefore I am not good or bad.
  What I do can be helpful or unhelpful.
  Helpful takes me towards what matters.

Connect

Spending time with people that share goals, purpose, and values can provide a sense of belonging and relatedness. Finding the common ground and connecting with these people will create a feeling of being in the 'tribe' and contribute to a reduction in stress.

Sometimes we can be fortunate to be surrounded by a tribe, whilst at other times we may need to seek out more opportunities.

Sometimes it may be easy to connect and relate to others, whilst at other times building relationships can require more active attention.

To improve health consider

- Do you know what matters most to the people you spend time with? Do you share thoughts of what is most important?
- If your current relationships have limited shared goals, purpose, and values consider seeking out some new connections in your neighbourhood or work, or with a hobby.

Influence

There may be many events that happen around us that lie outside of our control, which if we focus on could trigger a threat response in us. Conversely, having a sense of control and certainty in our world can help to lower the threat response and thus reduce chronic stress.

What we decide to place our attention on can alter the perception we have of how much control and certainty we have. By focusing on the aspects of our life we can influence our brain perceives a greater sense of control over our life and world.

To improve health consider

- Decide to take a very small and simple action each day that will benefit your health.
- Spend some time enjoying a hobby.

Notice

Noticing when our actions have achieved a beneficial outcome can provide a sense of achievement. A sense of achievement can help to lower the stress response, and thus improve insulin resistance.

Taking regular small steps and noticing the benefit can help to create momentum for continued positive change.

To improve health consider

- Make a conscious effort to notice when you make a change. Notice what went well and the benefits.

Helpful coping strategies

We all need coping strategies. These help us deal with challenges and stressors. Coping strategies are techniques or activities that work to reduce sudden stress. Whilst all coping strategies help to alleviate the immediate feeling of stress, not all coping strategies are beneficial for our long-term health.

Unhelpful coping strategies may help in the moment of sudden stress, but at the same time they run the risk of making tomorrow worse. This includes the use of alcohol and drugs.

Conversely, helpful coping strategies are those that help improve the sudden stress whilst also not having negative impact on our life, or even better, they benefit our long-term health. Examples may include going for a walk or speaking with a friend.

To improve health consider

- Think of two or three coping strategies that will help you to deal with a sudden stress **and** will not harm your long-term health – or even better, be of benefit to your future.