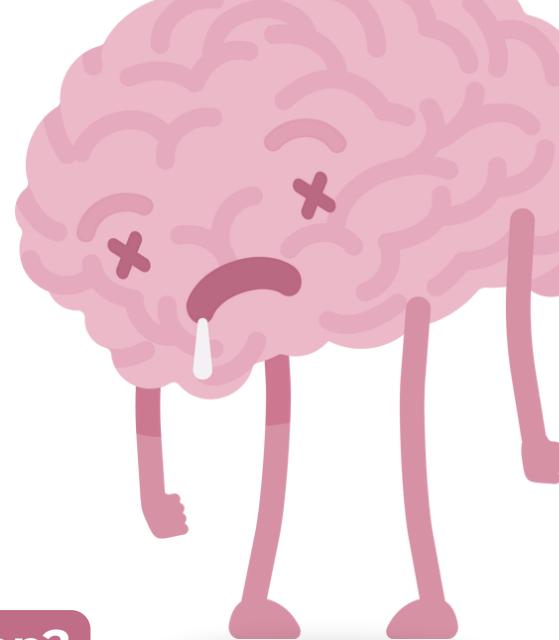


# Brains and heat

Neurones don't like heat. They need a stable temperature to be at their best. When it's hot they struggle to function; membranes become unstable, neurotransmitters denature and mitochondrial function is impaired. The hypothalamus that normally regulates body temperature can malfunction.



## What does that mean?

It means mood, alertness, cognition and behaviour are affected which has knock on effects in many conditions.

## Brains, heat and medication

The metabolism of neurotropic drugs and psychotropic drugs can alter affecting (e.g. decreasing) bioavailability or causing toxic metabolites.



- Antihistamines and anticholinergics inhibit sweating so can prevent cooling.
- Diuretics make you pee so dehydrate you and can alter electrolytes.
- B blockers slow the heart rate so reduce cooling potential.
- Some centrally acting medicines increase the risk of heat related illness as make the body struggle to thermoregulate and maintain hydration, they can also inhibit thirst.

Most medicines need to be stored between 15-25 degrees so higher temperatures can degrade them and render them less efficient



## Heat affects the brain

- Some people with complex neurological disorders suffer deterioration and control of seizure disorders may be reduced.
- Heat also reduces hours of sleep which can further complicate things.
- People may forget to stay cool and drink water due to these effects, especially the elderly and those with cognitive impairment.

## Tips for Better Brains when hot:

- Keep cool
- Keep out of the sun - especially 11am-3pm
- Keep your medication cool
- Drink plenty and stay hydrated



# Heat and Mental Wellbeing



## 01 Extreme heat causes problems

Extreme heat increases irritability, depression, suicide, poor memory and attention, aggression, substance use and domestic violence

## 02 Vulnerability

Those with pre-existing mental health conditions, dementia or live in poverty often have greater difficulty coping.

High temperatures can increase discomfort, interfere with sleep, and alter daily routines, potentially leading to an escalation of symptoms.



## 03 Medication and heat

Some psychiatric medications, including some antidepressants and antipsychotics, can affect the way a person's body regulates temperature.



## 04 Mental health impacts of heat

**Suicide outcomes:** a 1°C increase in mean monthly temperature was associated with an increase in incidence of 1.5%  
**Hospital attendance or admission for mental illness:** heatwaves versus non-heatwave periods were associated with an increase in incidence of 9.7%



## 05 Keep cool to keep your cool

Be near water; spraying water mists; take cold showers; eat cold food and drink; stay indoors from 11am-3pm; wear a hat; avoid exercise when the day is hottest; have a pre-sleep cooler shower.



## 06 Cool your space

Keeping curtains and blinds closed, use fans and air conditioning.

At work, flexible schedules to avoid the hottest part of the day and cooler rest areas can help.

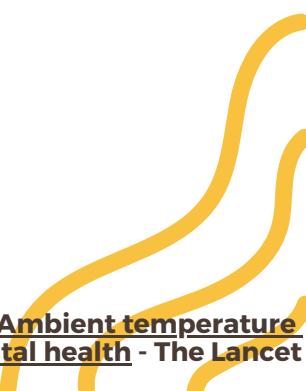
Green spaces with trees can reduce temperatures



## 07 Signs of dehydration

Mild symptoms include thirst and a dry mouth, whereas more severe symptoms include disorientation, confusion, and even coma.

Drink plenty and regularly. Seek medical help if needed



# Eating patterns for health in a heat wave



## Eating a Balanced diet

Attempts to reduce rates of obesity, type 2 diabetes, cardiovascular disease, and cancers by the government, WHO, and many health organisations include limiting red meat (especially processed meat) and/or shifting towards a diet with more plant protein as overarching dietary recommendations.

## Health gains

Reductions in red and processed meats are associated with reduced risk of colorectal cancer and reduced intakes of saturated fat and salt while the inclusion of plant proteins in the diet results in an improved fat profile, lower energy density and significantly increased fibre content. These dietary modifications are associated with reduced incidence of obesity, cardiovascular disease, type 2 diabetes, and some cancers.



## Tips for Heatwave Cooking

Cook early morning/late evening when it's cooler.  
Use a microwave or single burner to avoid heating the kitchen.  
-Soak pasta/grains in cold water to reduce cooking time.  
Alternatively, cold food, 'no cook' foods and salads work too.  
Using frozen fruit and berries for breakfasts or smoothies can help.

## What are the best foods to have during heatwaves?

Tinned or frozen fruit and veg can be as nutritious as fresh and reduce waste from perishability.



## Nutritious, affordable, shelf-stable foods

Grains & Carbohydrates - Cheap & Long Shelf Life.  
Oats – High in fibre, can be eaten cold as overnight oats.  
Rice (white or brown) – Brown rice is more nutritious.  
Pasta & Couscous – Quick to cook, can be eaten cold in salads.  
Wholemeal Bread if available fresh, or opt for crackers if storing long-term.



## Cans & Jars (No Fridge Needed)

Beans (kidney, black, chickpeas, lentils) – High in protein & fibre.  
Tinned Fish (mackerel, sardines, tuna) – Rich in omega-3s and protein.  
Canned Vegetables (tomatoes, sweetcorn, peas) – Good for vitamins.  
Coconut Milk – Useful for cooking grains or making cheap curries.



## Affordable Proteins

Lentils & Split Peas – Dried versions are very cheap and last years.  
Peanut Butter – Good for calories, protein, and healthy fats.  
Eggs (if available fresh and eaten quickly, as they can spoil in heat).  
Nuts & Seeds (sunflower, pumpkin) – High in healthy fats.  
Raisins & Dried Apricots – Natural sugars for quick energy



## Fruits & Veg That Keep Well in Heat

Potatoes & Sweet Potatoes – Last a while if stored in a cool, dark place.  
Onions & Garlic – Long shelf life, add flavor to meals.  
Carrots & Cabbage – More resilient to heat than leafy greens.  
Apples & Oranges – Keep well without refrigeration.  
Bananas – Cheap but eat quickly in heat.



## Food safety and heatwaves

Don't leave food on the worksurface – use a fridge.  
High temps = more bacteria breeding.  
Hot weather = more flies. Clean up and wipe down kitchen surfaces. Use fly strips rather than sprays if possible



# ACTIVE COMMUTING

## Benefits of active travel to work

### Health impacts of travel

9 million people die annually from air pollution and physical inactivity. In England, 38,000 premature deaths are attributed to poor air quality.



### Petrol and diesel vehicles

Burning fossil fuels contributes to poor air quality.  
Diesel vehicles are 20 times worse than electric cars.  
Petrol cars are 5 times worse than EVs.

### What can I do?

As trusted messengers, health care plays a critical role in educating, being role models and championing the clean air cause.

### Active travel



Better health - Staff who walk or cycle to work have a lower risk of mental or physical ill health and lower their risk of admission to hospital for any illness by 10-11%.



More than four in five (82%) of those that active commute said that incorporating exercise into their commute improved their mental health.



More productive - Three in five (60%) reported increased productivity at work.

Be social - Travel actively with someone else. Use a footbus (e.g. footbus.com) to connect with others to walk or ride together safely.

### Guilt free travel

Aim to travel actively as often as you can but don't feel guilty if you miss a day. Just try again tomorrow.



# Sleep and eco-anxiety

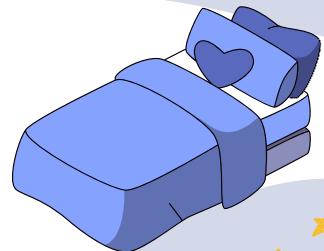


## 02 Eco anxiety and sleep

Eco-anxiety is associated with depression, anxiety, stress, insomnia, lower self-referred mental health, functional impairment, and reluctance to have children, mainly in climate-concerned populations, women, poorer countries, and younger generations.

## 01 Tips for good sleep

- Maintain the same wake and sleep time each day
- Ensure your bedroom is dark, cool and quiet
- Avoid caffeine after 2pm and limit alcohol consumption
- Try to spend some time each day outside in natural light to ensure your body gets a good dose of the melatonin it needs to sleep well.
- Keep active: ensuring you are physically active can help you to enjoy better sleep



## 04 Take positive actions

- Help direct efforts to advocacy groups. Spend time together researching organisations that you can get involved with.
- Educate yourselves on steps you both can take to minimise your impact on the environment.
- Support your loved one's decisions to make changes to their lifestyle, especially changes they can witness at home.
- Spend time in nature with friends and family

## 03 Be aware of feelings

Climate anxiety is rife with uncertainty, but taking action may help you feel in control. Talk with others, join forces, and make lifestyle changes based on your values.

Validate concerns. "I hear you, and it makes sense that you are worried (or angry) about this issue."



# Microplastics and health

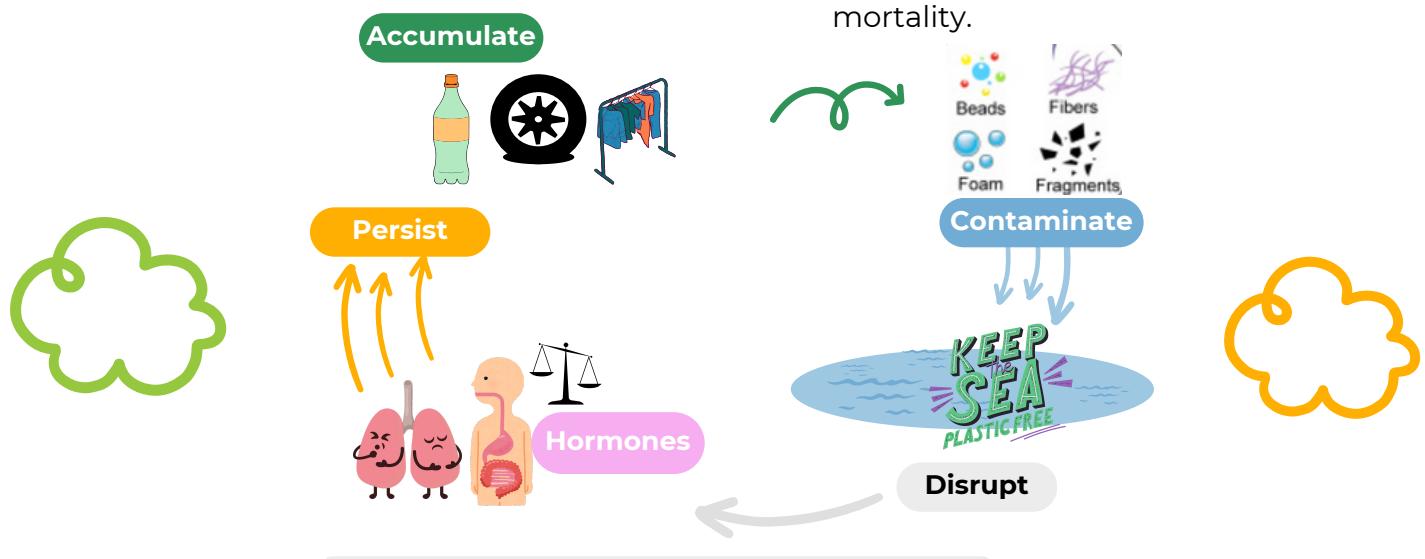
Avoiding harmful substances



**Microplastics are plastic pieces that measure less than five millimetres across and typically occur from the breakdown of plastic.**

## Persist

Microplastics are extremely persistent, which means it is almost impossible to remove them from the environment where they accumulate.

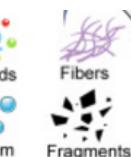


## Contaminate

Microplastics can carry contaminants through the food chain, potentially posing serious risks to human health. Can act as a medium for environmental toxic substances such as bisphenol A.

## Accumulate

Due to their persistence and the chemicals they are made of, studies suggest they can be highly detrimental to the organisms they come in contact with, including by causing reduced feeding, poisoning and increasing mortality.



## Contaminate



## Disrupt

Microplastics can affect various systems in the human body, including the digestive, respiratory, endocrine, reproductive, and immune systems.

Can act as a medium for environmental toxic substances such as bisphenol A.

## Disrupt



## Taking action



Avoid plastic where possible



Change to steel, glass or pottery drinking vessels

Don't microwave plastic containers

Swap plastic chopping boards for wood

Avoid highly processed foods, as studies have found they often contain higher levels of microplastics, especially processed meats.