

NEL Diabetes Workforce Education Programme

Target Audience - Social Prescribers and
Personalised Care Roles

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Learning Outcomes

Know about diabetes,
the different types and
who needs testing

Improved
understanding of the
diagnosis pathways,
outcomes and annual
reviews

Know the
complications of the
disease

Understand importance
of non-compliance

Know the local
resources and support
for diabetes

Understand the needs
of different individuals
and importance of
personalisation of care

Understand the role of
diet and exercise in
managing the condition

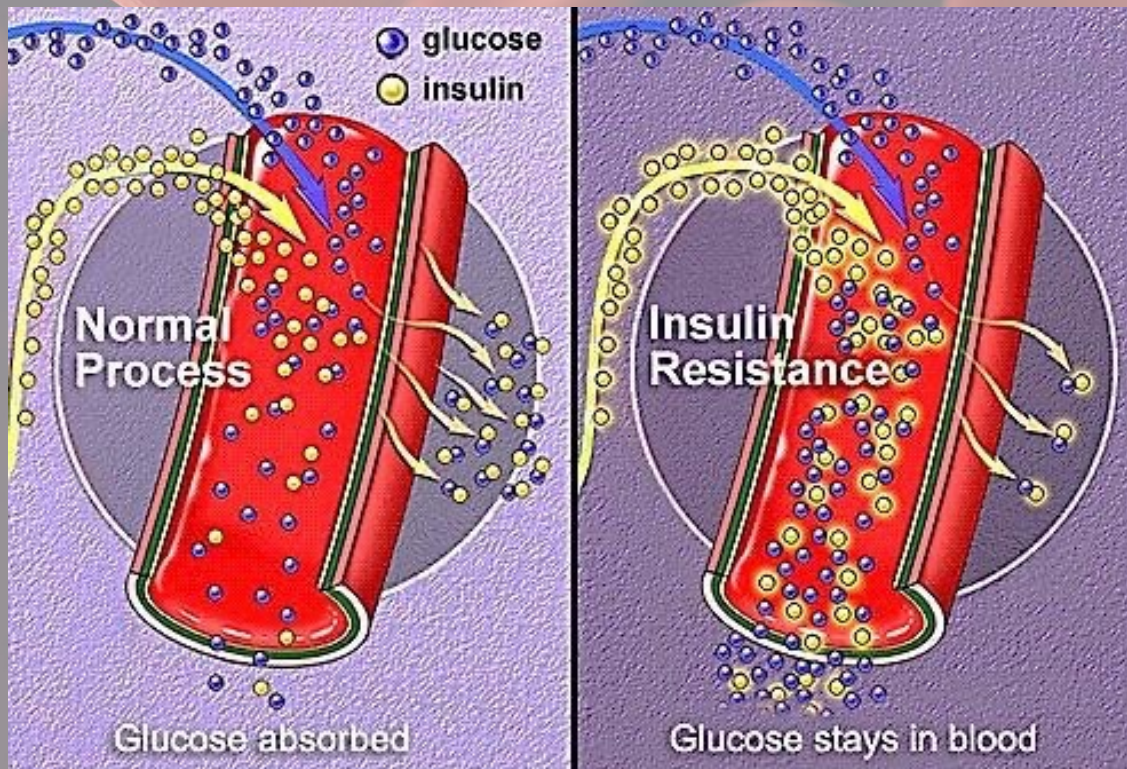
Food (glucose)

insulin (pancreas)

Energy



What is diabetes?



- ▶ Either a
 - ▶ Insulin Resistance
 - ▶ A lack of Insulin
- ▶ A person's blood sugar level to becomes too high in the blood
- ▶ Insulin is the key hormone which allows glucose to move from the blood into the muscle

- ▶ Fig- Nadeem, Areeba & Ali, Areeba. (2015). Role of Adipocytes and Fatty Acids in Metabolic Pathways of Glucose Intolerance Leading to Diabetes Type-2. 12-20

Types Of Diabetes

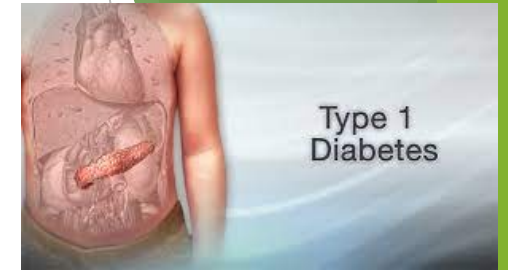
▶ Type 1 diabetes (10%)

- ▶ - Pancreas no longer produces insulin. People require injections of insulin to survive

▶ Type 2 diabetes (90%)

- The pancreas may not produce enough insulin
- The body does not respond as effectively to the insulin being produced (resistance).
- People often require oral medication but can require insulin injections later in their disease progression



▶ Diabetes in Pregnancy



Risk factors



Prevalence is rising worldwide (1 in 10 people in the world)

Type 1	Type 2
Family History	Family History
Age- usually children teens and young adults	Age- usually 45 and older
	Overweight/ low activity
	Prediabetes Gestational diabetes BAME
	

Symptoms



Type 1	Type 2
Thirst	Thirst
Frequent urination	Frequent urination
Weight loss	Weight loss
Tiredness	Tiredness
Genital itch and thrush infections	Genital itch
Blurred vision	Blurred vision
Delayed wound healing Fruity smelling breath	Delayed wound healing



Waiting Time Bomb



Diagnosis and screening

- ▶ Blood test
 - ▶ - HbA1c / Blood Glucose
- ▶ HbA1c - Measures the average amount of glucose in the blood cell over the last 90 days
- ▶ Symptomatic - patient comes with symptoms
- ▶ Opportunistic - random testing for another reason
- ▶ NHS health checks 40-74 year olds
- ▶ Maternity care



Diagnosis and screening

- ▶ Type 1- random blood glucose above 11mmol/mol
- ▶ Pre-Diabetes 42-47 mmol/mol
- ▶ Type 2- HbA1c of 48 mmol/mol

PREDIABETES
Borderline diabetes



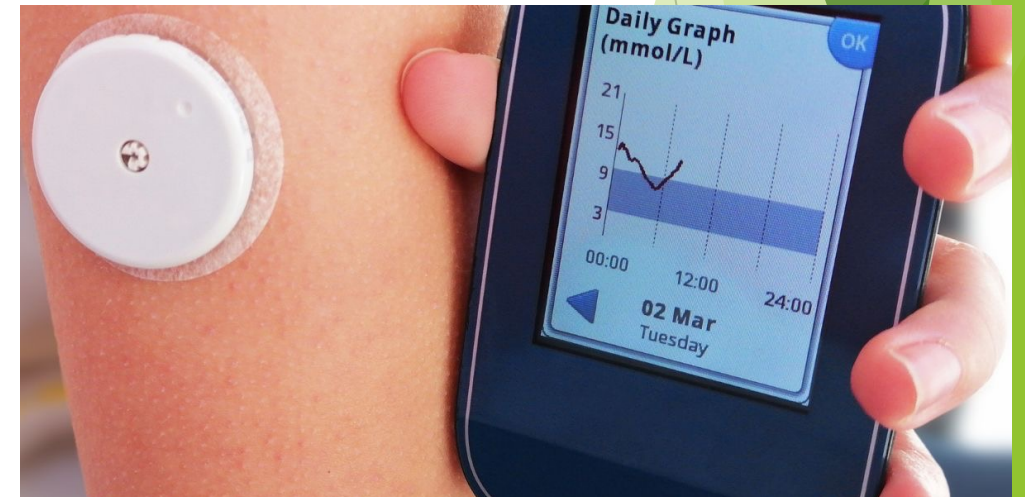
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DIAGNOSTIC CRITERIA FOR DIABETES AND PREDIABETES

NORMAL	PREDIABETES	DIABETES
FPG: <5.5 <small>MMOL/L</small>	FPG: 5.5-7.0 <small>MMOL/L</small>	FPG: >7.0 <small>MMOL/L</small>
OGTT: <7.8 <small>MMOL/L</small>	OGTT: 7.8-11.1 <small>MMOL/L</small>	OGTT: >11.1 <small>MMOL/L</small>
HBA1C: <42 <small>MMOL/L</small>	HBA1C: 42-47 <small>MMOL/L</small>	HBA1C: >47 <small>MMOL/L</small>
HBA1C: <6.0	HBA1C: 6.0-6.4	HBA1C: >6.4

Management of Type 1 diabetes

- ▶ Lifelong insulin- injections/ pumps
- ▶ Blood glucose monitoring- finger prick/ freestyle libra
- ▶ Carbohydrate counting
- ▶ Education- DAFNE (dose adjustment for normal eating) course
- ▶ Annual reviews with specialists



Management of Type 2 diabetes

- ▶ Lifestyle management- diet, exercise and weight management
- ▶ Medication- oral- metformin, dapagliflozin,, linagliptin etc.
- ▶ Injectable- insulin (measure blood glucose), semaglutide
- ▶ Education- new to diabetes, XPERT, Oviva diabetes support, dieticians
- ▶ Annual checks at GP and eye screening

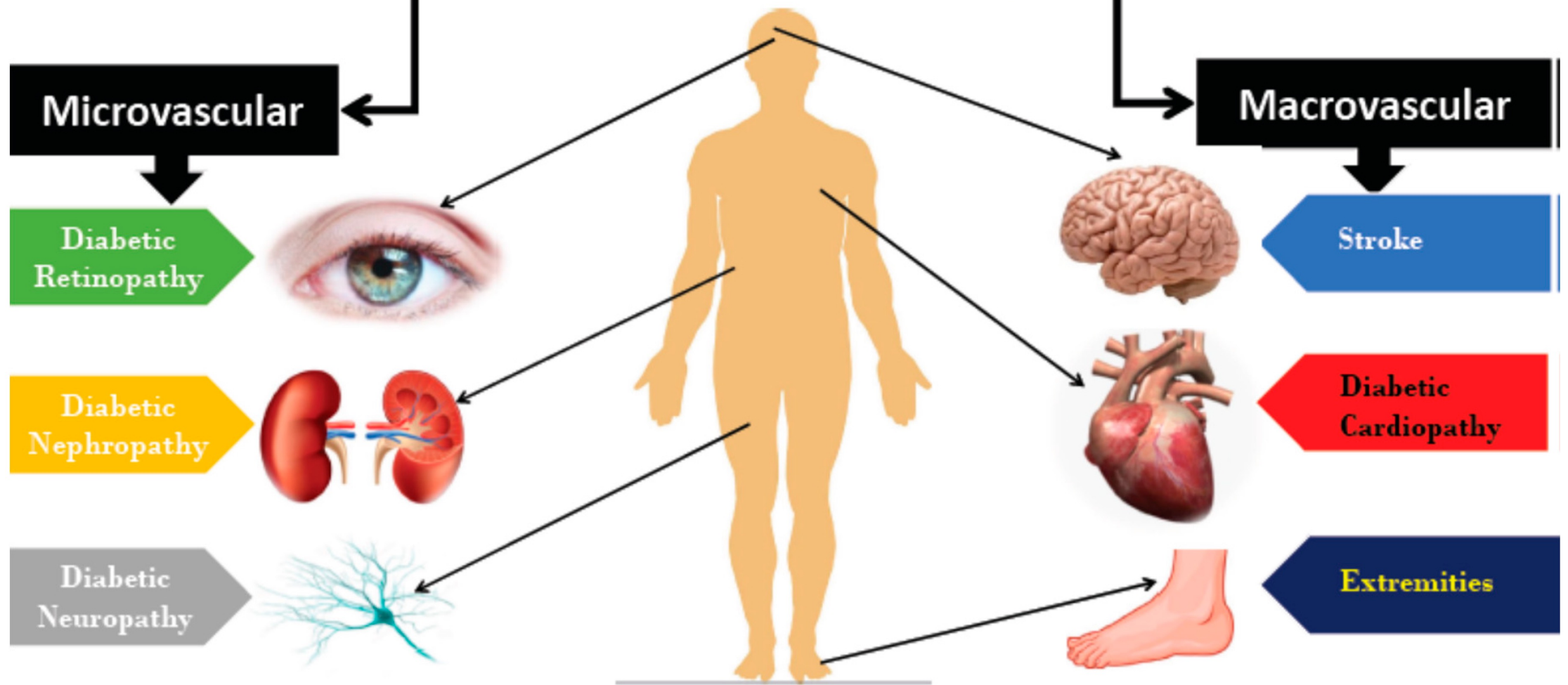


Management of pre-diabetes

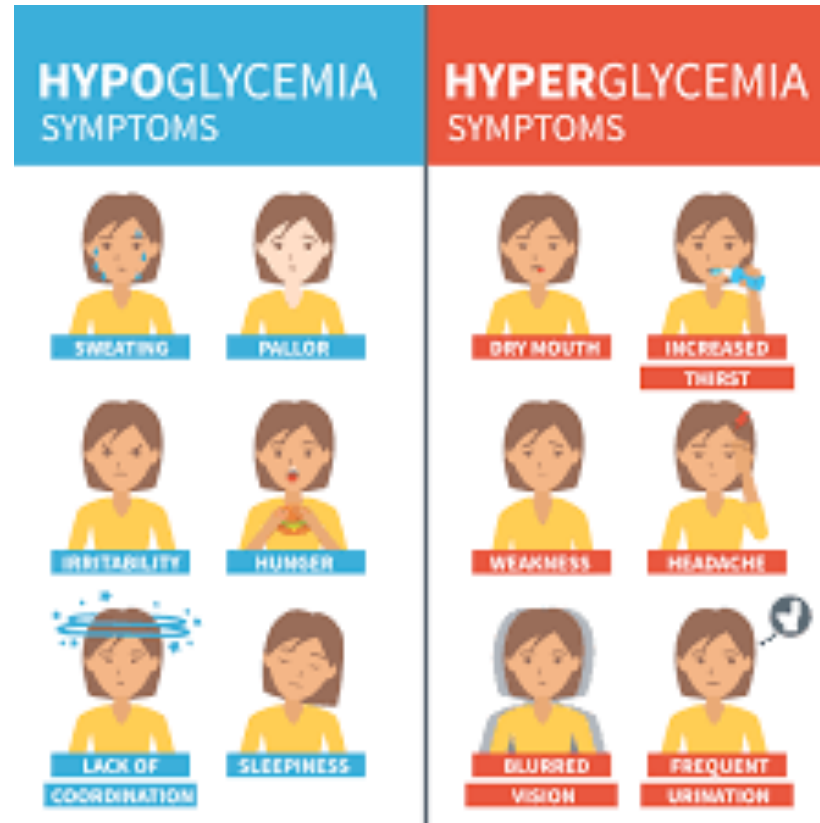
- ▶ Lifestyle management- diet, exercise and weight management
- ▶ Annual checks at GP with HbA1c testing



Complications of Diabetes



Hypo and hyperglycemia

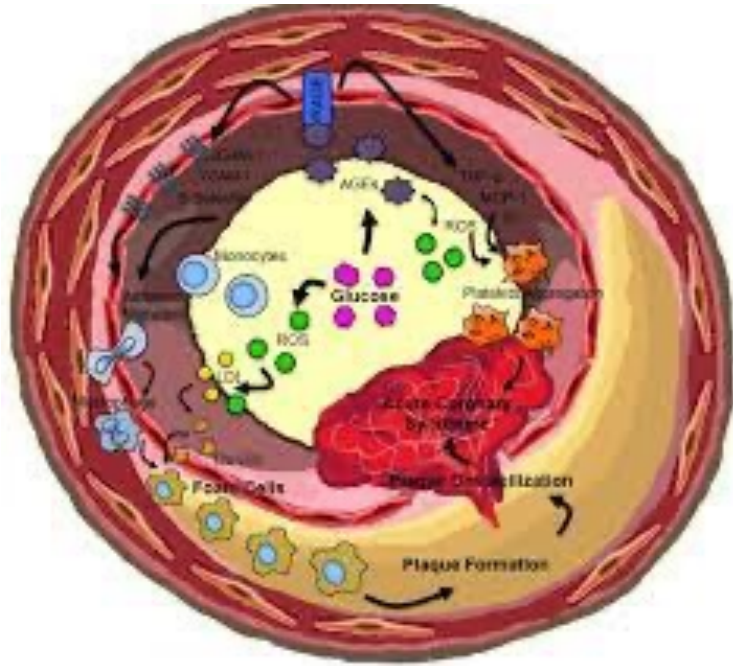


Diabetic Annual review

- ▶ Appointment with HCA/ Nurse for
 - ▶ BP, pulse rate and rhythm, weight, discuss diet, exercise, alcohol and smoking, foot check, blood test- hba1c, cholesterol, kidney function, urine ACR
- ▶ Clinician Review
 - ▶ Review blood/ urine results, ensure yearly eye screening, medication review, complete diabetic care plan in collaboration with patient, refer/ signpost to extra support where required

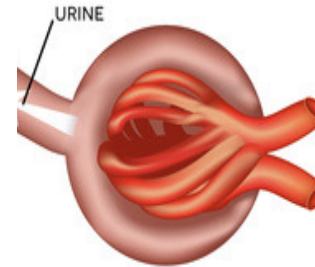
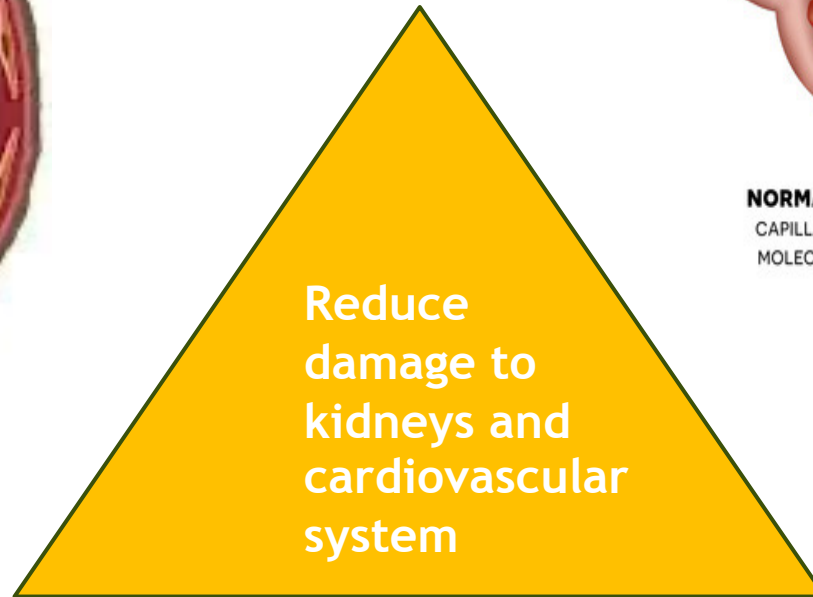


Diabetes, cardiovascular and kidney disease

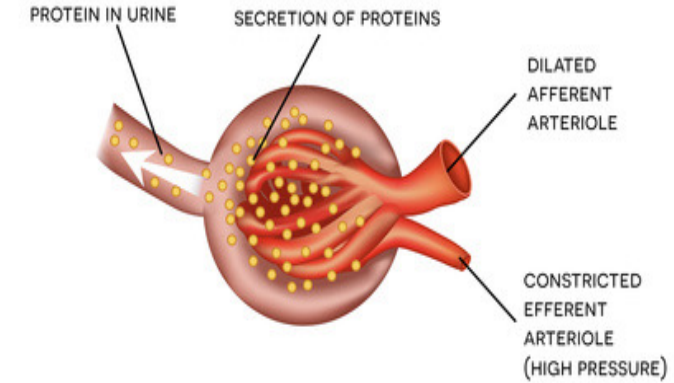


Cholesterol

Blood pressure



NORMAL GLOMERULUS
CAPILLARY KEEPS PROTEIN MOLECULES IN THE BLOOD



UNHEALTHY GLOMERULUS
PROTEIN MOLECULES SPILL IN TO THE URINE BECAUSE OF DAMAGE OF CAPILLARY WALL

HbA1c

Diabetes Eye Screening

LEARN THE FACTS

About

DIABETIC RETINOPATHY



Diabetic retinopathy occurs when diabetes damages the tiny blood vessels inside the retina, the light-sensitive tissue at the back of the eye.



Source: National Eye Institute, 2014

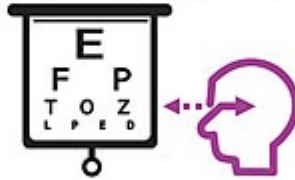
A GROWING ISSUE

Diabetic retinopathy is the leading cause of blindness in working-age adults ages 20–74.



NO EARLY SYMPTOMS

However, over time, diabetic retinopathy can get worse and cause vision loss or blindness.



WHO IS AT RISK?



All people with diabetes—both type 1 and type 2—are at risk.



95%

REDUCED RISK OF VISION LOSS

Early detection, timely treatment, and appropriate follow-up care can reduce the risk of severe vision loss by 95 percent.

LEARN MORE AT:
www.nei.nih.gov/diabetes



- Annual Screening



Diabetes and foot care



Wash daily



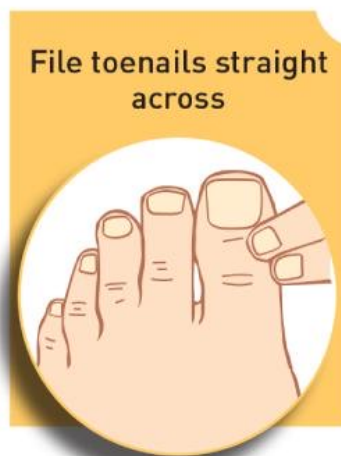
Dry well especially between toes



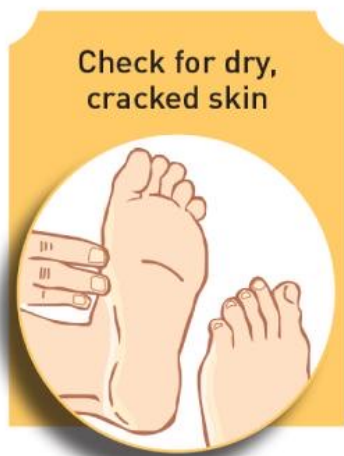
Feel for bumps or temperature changes



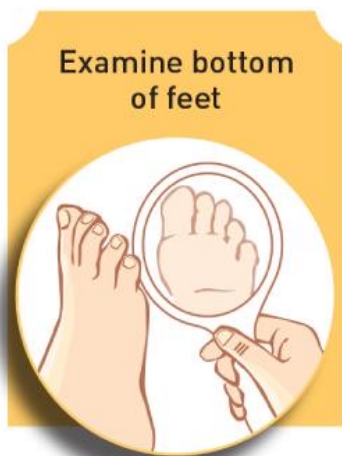
Look between toes; check each toenail



File toenails straight across



Check for dry, cracked skin



Examine bottom of feet



Track what you find

- People with diabetes have a 25% risk of developing a foot ulcer
- 14-24% require lower limb amputation due to gangrene
- 5 year mortality rates of diabetics after amputation is 40-48%

Huang YY, Lin CW, Yang HM, Hung SY, Chen IW. Survival and associated risk factors in patients with diabetes and amputations caused by infectious foot gangrene. J Foot Ankle Res. 2018 Jan 4;11:1. doi: 10.1186/s13047-017-0243-0. PMID: 29312468; PMCID: PMC5755273.

Lifestyle interventions

- ▶ Healthy diet- Balanced with a variety of whole grains, fruits, vegetables, lean protein and healthy fats. Limit intake of added sugars, highly processed food. Monitor portion size
- ▶ Regular exercise- 150 minutes of moderate aerobic exercise and strengthen exercise twice a week
- ▶ Weight management- 5kg weight loss can cause a reduction of hba1c of 3mmol/L
- ▶ Stop smoking, reduce alcohol consumption
- ▶ Stress management



Medication adherence



- ▶ Taking medication as prescribed is hard- nearly a 1/3 do not adhere to their regime
- ▶ Reasons for this are-
- ▶ Lack of understanding, fear of side effects, forgetfulness, denial/ stigma, perceived lack of benefits/ lack of symptoms, complexity of treatment, cultural or religious beliefs, frustration/ burnout
- ▶ Important for practitioners to have an inquiring mind to discover why might a person be non-adherent and to provide support to help improve this.

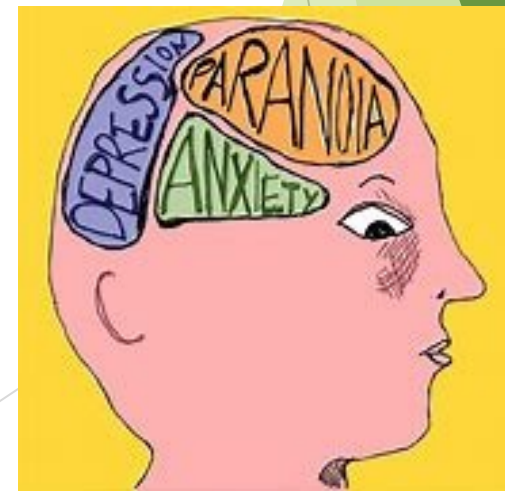
A woman with blonde hair, wearing a light purple button-down shirt and blue jeans, is sitting on a light-colored couch. She has her right hand to her face, looking down with a distressed expression. In front of her on a wooden coffee table is a black tray containing various diabetes supplies: a blue insulin pen, a white insulin vial, a blue lancing device, and a white glucose meter. A black remote control is also on the table. The background is a plain, light-colored wall.

Diabetes distress and denial

- Diabetes distress is where a person feels frustrated, defeated or overwhelmed by their disease- can lead to depression, lack of engagement and denial
- Reasons for denial-
- Emotional burden of diagnosis- shock, fear, guilt, anger, grief- informed by past experiences- denial is protective for the mind
- Sociocultural influence- stigma, religion, culture, family and friends negative influence, relationship with healthcare providers
- Capacity of resilience- lack of time, money, health, other priorities/ care needs, apathy, low self efficacy

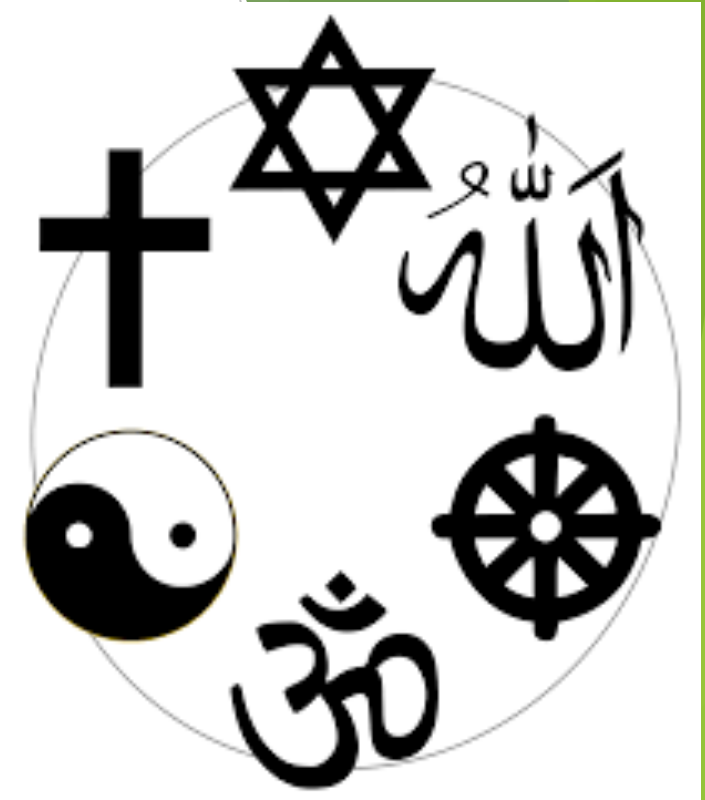
Diabetes and mental illness

- ▶ Most antipsychotic medication cause weight gain and insulin resistance
- ▶ Prevalence of diabetes in those with serious mental illness is 2-3 times higher compared with general population
- ▶ Diabetes is a major contributor to increased morbidity and mortality within this cohort



Cultural considerations

- ▶ Faith and use of medication due to ingredients
- ▶ Religious Festivals - Ramadan advice
- ▶ Tailored food advice to suit cuisines/ meal schedules
- ▶ Healthcare culture clashes eg- homeopathy vs western medicine



Social factors influencing control

- ▶ Family and friend's support and advice
- ▶ Stigma/ shame within the community
- ▶ Shift workers
- ▶ Burden of care for others



Influence of diabetes on mental health



- ▶ Twice as likely to experience depression with diabetes
- ▶ 40% of people with diabetes have struggled with their psychological wellbeing since being diagnosed
- ▶ Caused by the relentless nature of the disease- ever present, affects lifestyle, decision fatigue
- ▶ Depression can lead to poor diabetes management, lack of medication/ lifestyle adherence



Your Role



- ▶ Patient awareness and education
- ▶ Picking up clues from them and then directing them to the GP practice to get tested
- ▶ Encourage them to attend appointments and be aware of the different components of care
- ▶ Personalised care approach



Case based scenarios

- ▶ John (46) has been struggling to control his diabetes. He feels overwhelmed by the disease and confused over what he should be eating, so ends up ordering takeaways. Since being diagnosed with the condition he has become more withdrawn, and doesn't socialise like he used to. Instead he spends most of the time watching tv and smoking cigarettes. He's been struggling to sleep at night and worries about how his health will be in the future. He doesn't want to end up like his Dad who passed away at the age of 50 after having his foot amputated.
- ▶ How can you help John manage his condition?



Case based scenarios

- ▶ Amira (77) has been struggling with her diabetes. She has been suffering with arthritis in her knees, and as a result is not going on her regular walks. She enjoys eating white rice and has a bit of a sweet tooth. She finds her medication confusing and isn't quite sure how many units of insulin she is supposed to inject with each meal. She doesn't always test her blood sugars, only if she feels a bit funny and the readings can range from 2 to 17mmol/L.
- ▶ What would you do to support Amira?



Questions?



Resources

- ▶ Diabetes UK- <https://www.diabetes.org.uk/>
- ▶ Diabetic Specialist Nurses, Diabetes Consultant MDT's, Diabetic support, Accurex text messages and leaflet support)
- ▶ Podiatry Foot Health support
- ▶ Local Education Support (Oviva, low calorie Diet, weight management support)
- ▶ Healthier together (Exercise initiates, free gym, walking groups)

15 Healthcare Essentials

Getting the care you need

When you have diabetes, you're entitled to certain checks, tests and services every year. We call these the 15 Healthcare Essentials – these will help you manage your diabetes and they're all free.

Take this list to your GP and start ticking the things off you've already got an appointment for. You won't have all of these on the same day. Talk to your GP about the things you still need help arranging.

- | | |
|--|---|
| 1 Blood glucose test (HbA1c test) <input type="checkbox"/> | 9 Group education course <input type="checkbox"/> |
| 2 Blood pressure check <input type="checkbox"/> | 10 Care from diabetes specialists <input type="checkbox"/> |
| 3 Cholesterol check (for blood fats) <input type="checkbox"/> | 11 Free flu jab <input type="checkbox"/> |
| 4 Eye screening <input type="checkbox"/> | 12 Good care if you're in hospital <input type="checkbox"/> |
| 5 Foot and leg check <input type="checkbox"/> | 13 Support with any sexual problems <input type="checkbox"/> |
| 6 Kidney tests <input type="checkbox"/> | 14 Help to stop smoking <input type="checkbox"/> |
| 7 Advice on diet <input type="checkbox"/> | 15 Specialist care if you're planning to have a baby <input type="checkbox"/> |
| 8 Emotional and psychological support <input type="checkbox"/> | |

My action plan

- I'll ask my GP to help me get the things I haven't ticked
- I know how to help manage things myself too, in between yearly checks
- I'll get more info from www.diabetes.org.uk/15-healthcare-essentials