HEALTHY NORTH COAST

phn NORTH COAST
An Australian Government Initiative

DIABETES PREVENTION AND MANAGEMENT – Putting tools for preventive care into practice

Dr Sarah Mollard

22nd October 2022

ACKNOWLEDGEMENT OF COUNTRY

Learning Outcomes

Learning Outcomes

1. Participants will be able to use HealthPathways to support the prevention and clinical management of diabetes
2. Participants will be able to use HealthPathways to support multidisciplinary care in the management of diabetes
3. Participants will be able to adapt practice systems, health literacy and other preventive care considerations to the clinical care of patients with diabetes

Introducing our panellists

- Sara Coombs
- Emma Coombs
- Dr Adrian Gilliland
- Dr Devina Joshi
- Del Oliver
- Kim Poyner

Case – Introducing David

Age 56

Infrequent visitor to GP

Boil in armpit

Hypertension, no other medical history

No regular medications

No bloods in last 5 years

Case – screening

Recent boils, self managing

Examination – afebrile

large carbuncle with surrounding cellulitis

Treatment – Incision and drainage/oral antibiotics

What else?

Image credit – dermnetnz.org/topics/boil

Screening in diabetes – group activity

1/ Introduce yourself

2/ Which patients need screening for diabetes? How often and with what test

3/ Log into HealthPathways

https://manc.communityhealthpathways.org/

Username – manchealth Password – conn3ct3d

4/ Use the search bar to open the “Screening and Diagnosis of Diabetes” pathway

5/ Are there any groups that you missed? Which groups do you find are hardest to engage in screening? What strategies do you use to reach at risk groups?

2. Identify patients who should be screened for diabetes:
   - Signs or symptoms of hyperglycaemia
   - Signs or symptoms of insulin resistance
   - High risk for type 2 diabetes

> **High risk for type 2 diabetes**
>
> - Age ≥ 40 years and overweight or obese
> - Patients with impaired glucose tolerance test or impaired fasting glucose (not limited by age)
> - Other at-risk patients – consider screening at an earlier age or lower body mass index (BMI):
>   - First-degree relative with diabetes
>   - High-risk race/ethnicity (Indian subcontinent or Pacific Islanders)
>   - All people with a history of a previous cardiovascular event (e.g., acute myocardial infarction or stroke)
>   - Women with a history of gestational diabetes mellitus
>   - Women with polycystic ovary syndrome (PCOS)
>   - Patients on antipsychotic drugs

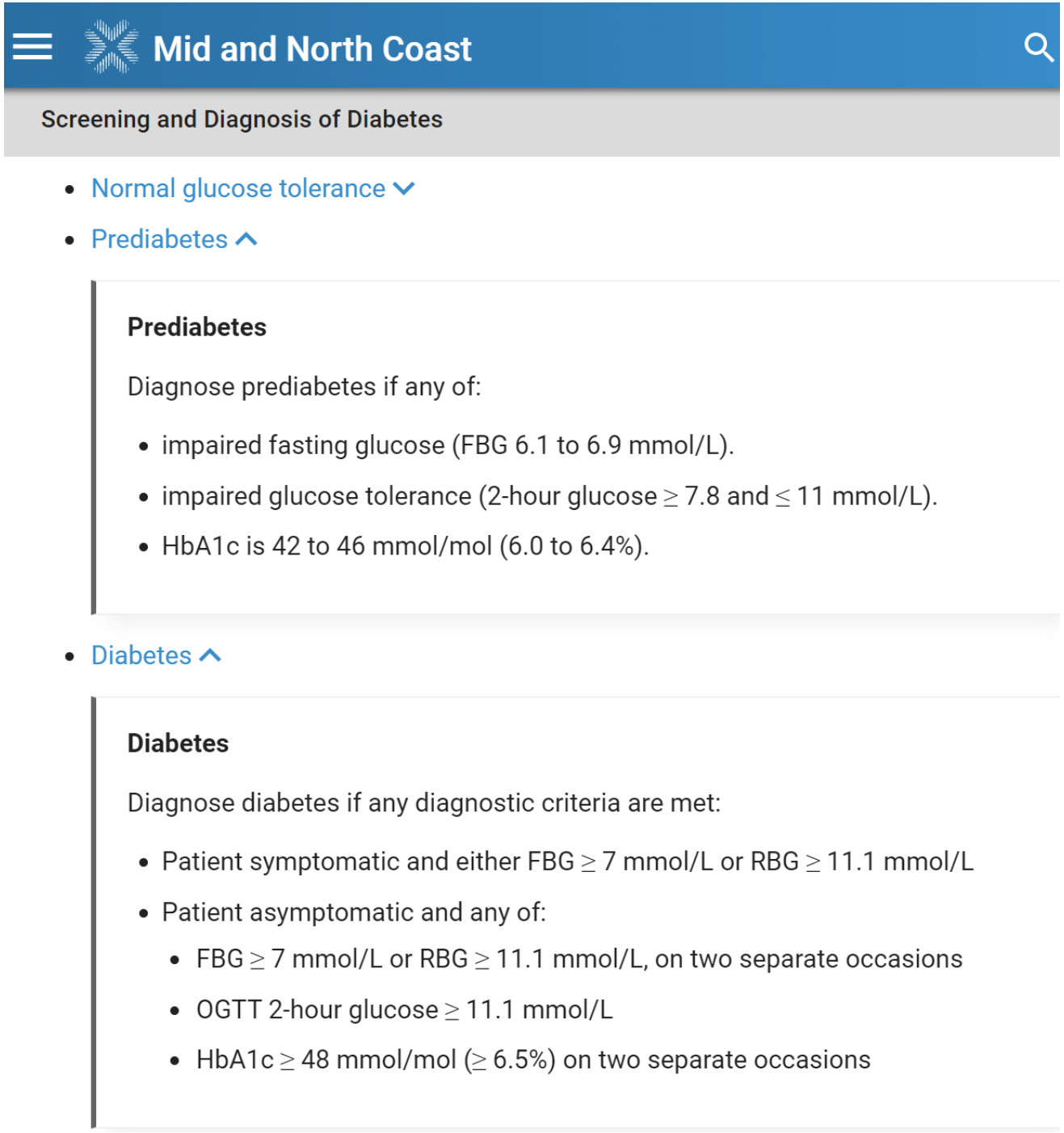
   - Non-Aboriginal and Torres Strait Islander patients aged > 40 years – use AUSDRISK risk assessment questionnaire every 3 years and investigate further those patients with a score ≥ 12.
   - Aboriginal and Torres Strait Islander patients aged > 18 years – annual HbA1c screening is preferred, given the high prevalence of diabetes in this group. [3]
   - Aboriginal and Torres Strait Islander children from age of 10 years (or at onset of puberty, whichever occurs earlier) with one

What if? Diabetes screening and prevention and pregnancy

Case – David's results

Hba1c – 44 mmol/mol (6.2%)

Fasting BSL – 6.1



Lifestyle programs – HealthPathways

Physical Activity Support

Healthy Lifestyle Support

Physical Activity Support

See also:

- Exercise Physiologists
- Falls Prevention Programs

Referral

Physical activity and healthy lifestyle programs

1. Check provider for specific criteria.
2. Contact the provider.

Active and Healthy

A website that provides:

- a search via postcode for falls prevention and general exercise groups.
- patient information about exercises, health, and making the home environment safe.

Exercise groups

Contact the provider.

Diabetes BEAT IT Program

1. Check the provider for criteria.
2. Prepare the required information.
3. Contact the provider.
4. Inform the patient.

Diabetes BEAT IT Program

1. Check the provider for criteria.
2. Prepare the required information.
3. Contact the provider.

Aboriginal Get Healthy Service

Diabetes BEAT IT Program NSW

REFERRAL OPTIONS

Phone 1300-342-238

Service-specific criteria

- NDSS member
- Has had a one-on-one assessment prior to starting program

Information for referrer

Patients can register for a class by phoning **(02) 6581-5420** or **0420-921-491**. They will be put on a waitlist.

NSW
NSW

Admin contact info

Website Click here

Service description

Beat It Gym is a program that runs over 8 weeks and involves moderate intensity aerobic, strength and balance based exercises as well as education sessions on healthy living topics. NDSS members will be advised by email when a local Beat It program is starting.

4. Inform the patient.

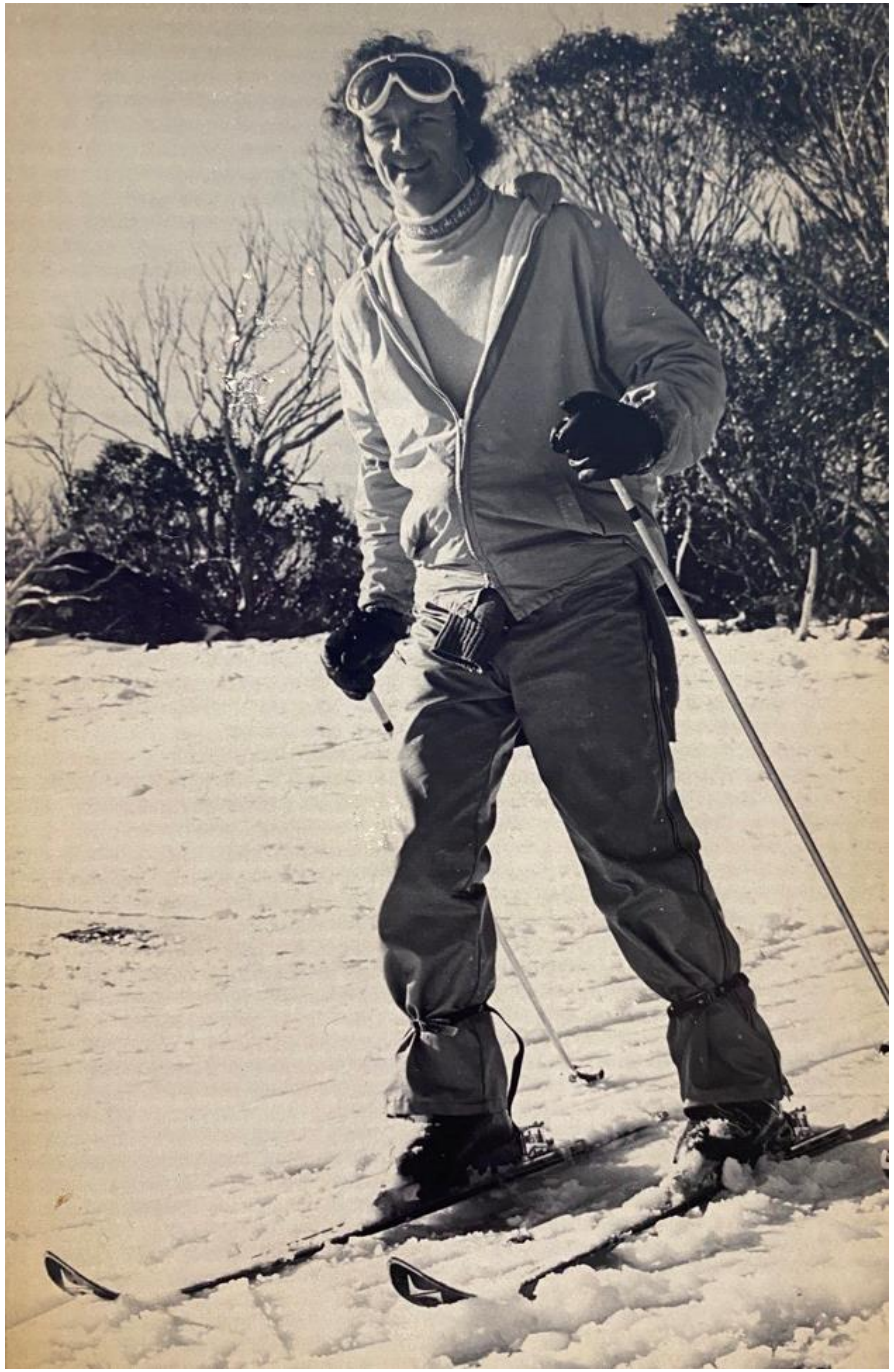
Parkinson's exercise groups

Contact the provider.

SEND FEEDBACK

What if?

- David 24yo not 56yo
- Finger prick BSL was 20



Case – 2 years later – Age 58

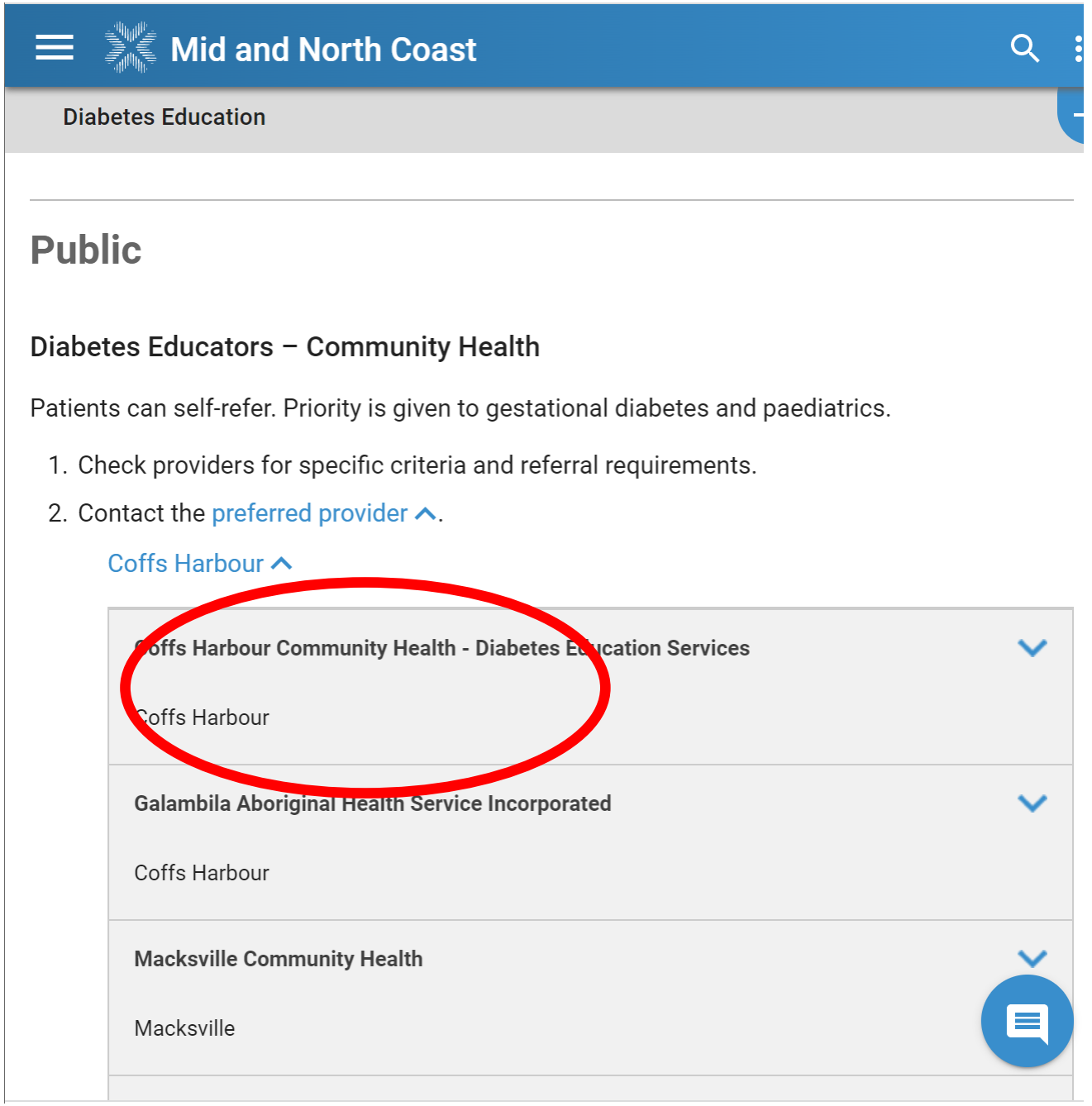
Hba1c – 7.5%

Fasting BSL 8.4

TC 5.4, HDL 0.8, LDL 3.6 Trig 2.1

Normal renal function and LFTs

Diabetes and the multidisciplinary team – Diabetes Education



Diabetes and the multidisciplinary team - podiatry

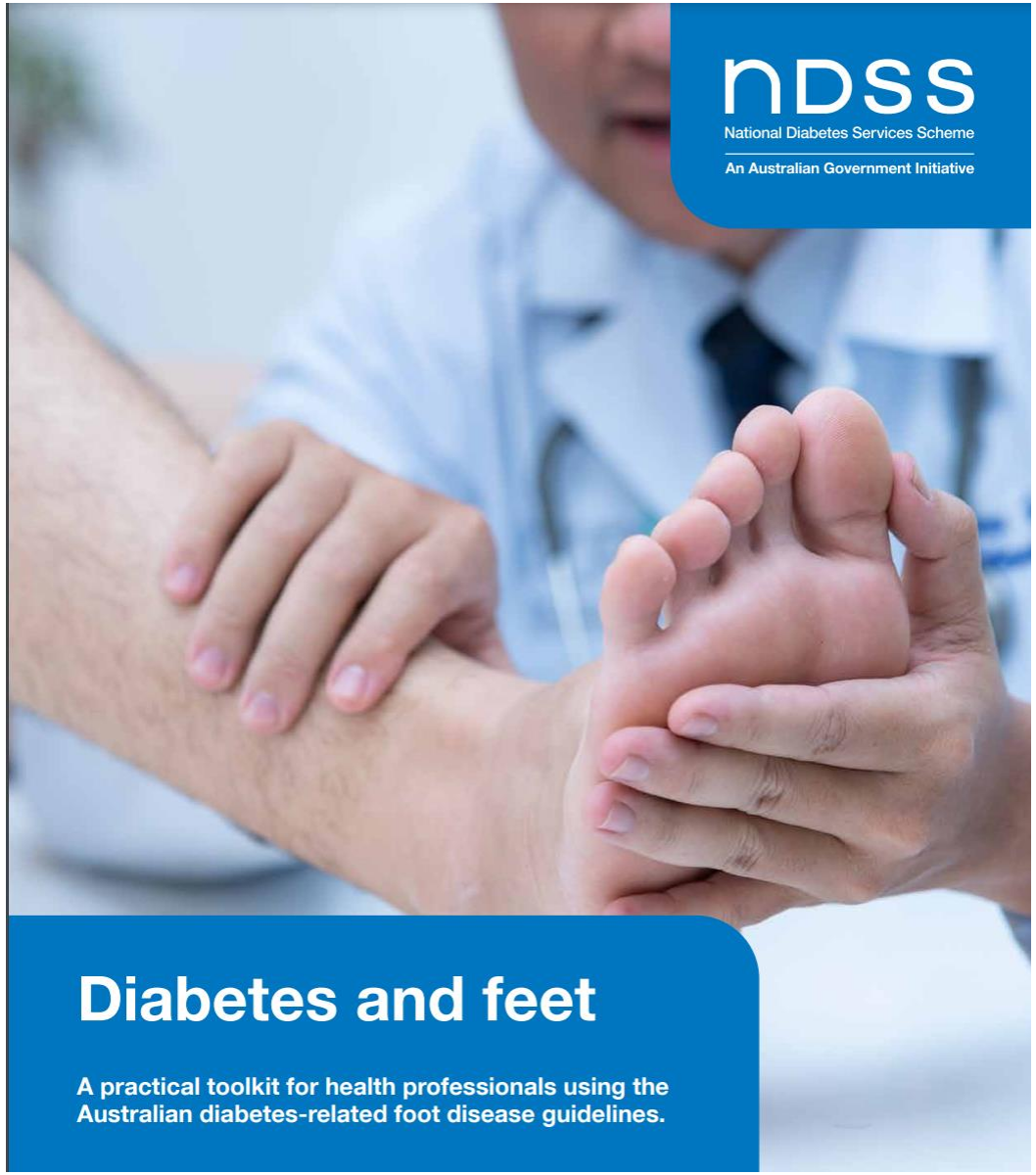
Image credit – dermnetnz.org/topics/diabetic-foot-ulcer

Assessment

1. Review tetanus status.
2. Ask about:
   - any foot symptoms e.g. numbness, burning, pain, paraesthesia.
   - current problems e.g. corns, ulcers, blisters, cracks, or problem nails.
   - footwear – whether the footwear is supportive and appropriate for the activities performed.
3. Look for:
   - neuropathy.
   - ischaemia.
   - structural deformities
   - skin and nail concerns
   - any foot care emergencies e.g. cellulitis, ulcer, infection, acute Charcot foot, critical ischaemia, limb-threatening infections.
4. Perform tests to help determine the foot risk category:
   - Test foot sensation using 10 g monofilament – see Use of a 10 Gram Monofilament.
   - Test vibration perception using a tuning fork – see Neurologic Examination of the Foot: The 128 Hz Tuning Fork Test [video, 2 minutes]

   These tests may not detect early neuropathy.
5. Decide the patient's foot risk category:
   - Low-risk foot
   - Intermediate-risk foot
   - High-risk foot

FEEDBACK



Wound classification pathway for any person presenting with a diabetes-related foot ulcer(s)

Assess medical history
(including cardiovascular disease, kidney disease, smoking and other comorbidity status, diabetes type, duration, HbA1c, foot ulcer history, amputation history, other complications)

Assess ulcer at a minimum by using the SINBAD wound classification system characteristics (see Table 1) (including Site, Ischaemia/PAD, Neuropathy, Bacterial infection, Area, Depth)

↔ Communicate ulcer at a minimum with other health professionals using the SINBAD Wound Classification system (see Table 1)

No signs of ischaemia/peripheral artery disease (PAD) or infection

Signs of ischaemia/peripheral artery disease (PAD)

Assess ischaemia/ PAD ulcer severity using WIfI scoring system (see Table 2)

Signs of infection

Assess infection ulcer severity using IDSA/ IWGDF infection classification system - see infection pathway

Provide wound healing management: Refer to Wound healing interventions pathway

↔ **Provide offloading management: Refer to Offloading pathway**

Provide PAD management: Refer to PAD pathway

↔ **Provide infection management: Refer to Infection pathway**

Review ulcer(s)

Ulcer(s) not healed in 6 weeks

Review evidence-based ulcer(s) classification: Repeat the above Classification pathway

Ulcer(s) healed

Provide prevention management: Refer to Prevention Pathway

Be cautious using any foot ulcer classification system to provide a definite individual ulcer prognosis

Prevention

Prevention pathway for a person with diabetes at-risk of foot ulceration

1. Screening

Examine for LOPS and PAD^

When neither is present

- Very low risk (IWGDF risk 0)^
- Re-examine every 12 months

When either is present

Low risk (IWGDF risk 1)^	OR	Moderate risk (IWGDF risk 2)^	OR	High risk (IWGDF risk 3)^

Also examine for:
- Foot ulcer history
- Amputation history
- ESRD
- Foot deformity
- Limited joint mobility
- Abundant callus + pre-ulcerative signs

Categorise risk according to IWGDF system^

Low risk (IWGDF risk 1)^	Moderate risk (IWGDF risk 2)^	High risk (IWGDF risk 3)^
Re-examine every 6-12 months	Re-examine every 3-6 months	Re-examine every 1-3 months

2. Education

Provide education based on risk category of person^

Low risk (IWGDF risk 1)^	OR	Moderate risk (IWGDF risk 2)^	OR	High risk (IWGDF risk 3)^

Provide structured education on:
- Foot ulcers and consequences
- Foot self-care behaviours
- Footwear that protects feet
- Regular foot examinations
- Any increase in weight-bearing activity should be gradual
- Seeking help from health professional if discover a foot problem

Perform self-care by:
- Inspecting feet daily
- Checking inside shoes
- Washing feet daily
- Using emollient for dry skin
- Cutting nails straight across
- Avoiding chemical agents

Protect feet by:
- Not walking barefoot
- Wearing well-fitted socks
- Wearing well-fitted shoes

Consider additional education for person if

Moderate risk (IWGDF risk 2)^	OR	High risk (IWGDF risk 3)^

Perform self-monitoring by:
- Checking foot temperatures daily*
- Immediately consult health professional if >2.2°C temperature difference in similar regions of both feet on 2 consecutive days and limit weightbearing*

Protect feet further by:
- Wearing medical grade footwear that fits well and reduces plantar pressure
- Wearing custom-made footwear and/or foot orthoses or toe orthoses (if foot deformity or pre-ulcerative sign is present)

3. Treatments

Provide treatment based on risk category of person^

Low risk (IWGDF risk 1)^	OR	Moderate risk (IWGDF risk 2)^	OR	High risk (IWGDF risk 3)^

Provide treatment for:
- Pre-ulcerative signs
- Abundant callus
- Ingrown toenails
- Fungal infections

Consider: Orthotic interventions to reduce abundant callus

Consider: Digital flexor tendon tenotomy in a person with abundant callus for preventing a first ulcer

Also consider if

High risk (IWGDF risk 3)^

Integrated foot care including:
- Professional foot care
- Adequate footwear
- Structured education about self-care

(Repeat every 1-3 months)

Medical grade footwear with: demonstrated plantar pressure relieving effect to prevent ulcer recurrence

Also consider if

Moderate risk (IWGDF risk 2)^ OR High risk (IWGDF risk 3)^

Digital flexor tendon tenotomy in a person with non-healing distal digital ulceration, to help prevent ulcer recurrence

Achilles tendon lengthening, single or pan metatarsal head resection, metatarsophalangeal joint arthroplasty or osteotomy in a person with non-healing plantar forefoot ulceration, to help prevent ulcer recurrence

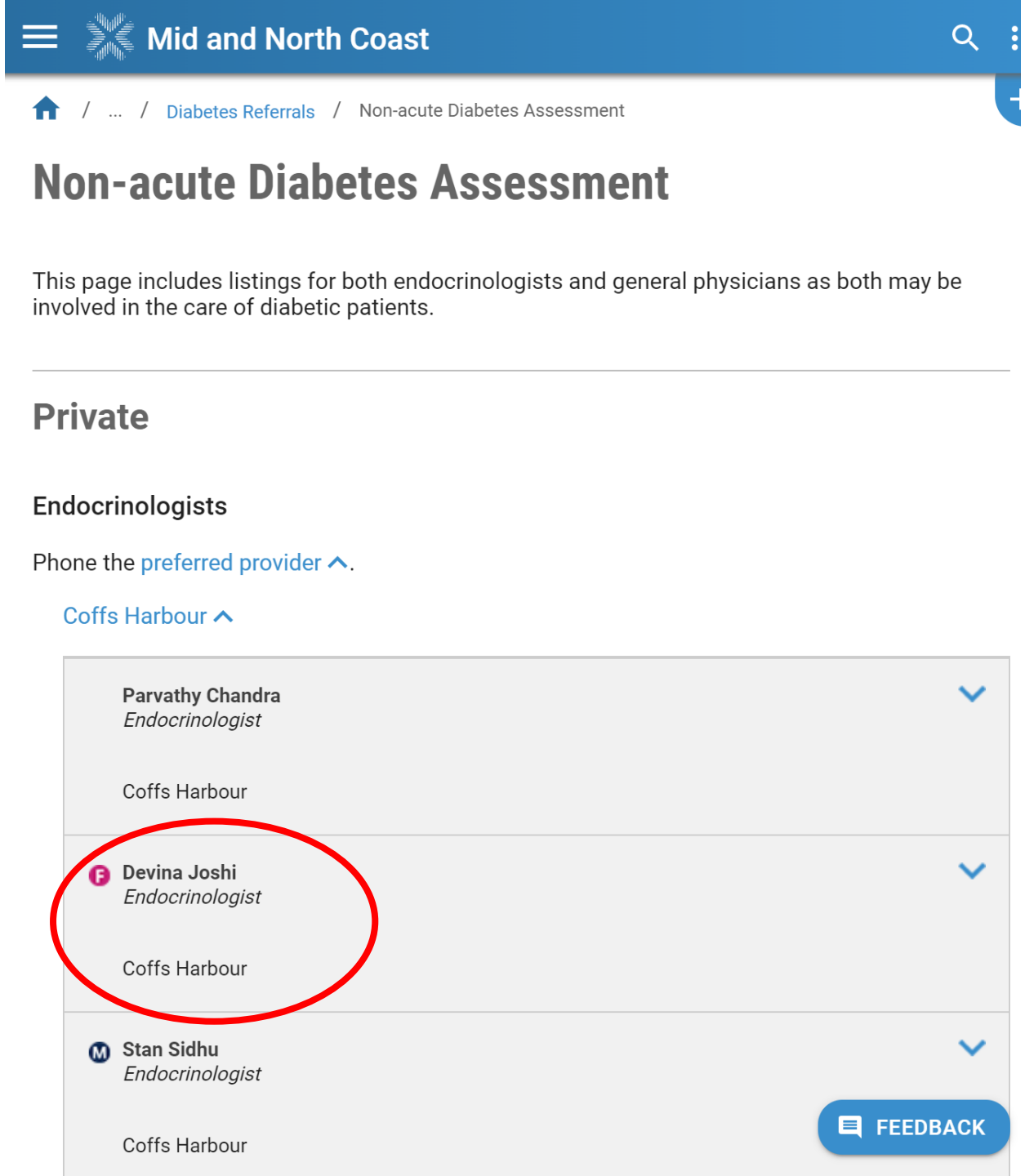
NOT using a nerve decompression procedure for ulcer prevention or neuropathic pain

IWGDF Risk Stratification System^

Category	Ulcer risk	Characteristics
0	Very low risk (IWGDF risk 0)	No LOPS + No PAD
1	Low risk (IWGDF risk 1)	LOPS or PAD
2	Moderate risk (IWGDF risk 2)	LOPS + PAD or LOPS + Foot deformity or PAD + Foot deformity
3	High risk (IWGDF risk 3)	LOPS or PAD and one or more of: • Foot ulcer history • Amputation history • ESRD

Adapted from: Bus SA, Lavery LA, Monteiro-Soares M, et al. Guidelines on the prevention of foot ulcers in persons with diabetes (IWGDF 2019 update). Diabetes Metab Res Rev. 2020;36 Suppl 1:e3269. Pp 3.

Diabetes and the multidisciplinary team - Endocrinology



National Diabetes Services Scheme
An Australian Government Initiative

AUSTRALIAN TYPE 2 DIABETES GLYCAEMIC MANAGEMENT ALGORITHM

All patients should receive education regarding lifestyle measures: healthy diet, physical activity and weight management.

Determine the individual's HbA1c target – commonly ≤53 mmol/mol (7.0%) but should be appropriately individualised (refer to ADS position statement).

Effect of changes in therapy should be reviewed in 3 months.

+ Weight loss of ≥10% will likely allow a reduction or cessation of glucose lowering medication. Consider intensive weight management options including:

- Low energy or very low energy diets with meal replacements
- Pharmacotherapy
- Bariatric surgery.

Click here for the Australian Obesity Management Algorithm

Review treatment: if not at target HbA1c or if presence of cardiovascular/chronic kidney disease –

- Check patient understanding of self-management including drug treatment
- Ensure current therapies are clinically appropriate including comorbidities/ therapies impacting glycaemic control
- Review medication adherence
- Assess tolerability, adverse effects and risk of interactions

If HbA1c not at target: Reinforce education regarding physical activity and review weight management strategies.

MONOTHERAPY: Metformin is the usual monotherapy unless contraindicated or not tolerated

Metformin | SU | Insulin

Less commonly used are PBS approved: acarbose or TGA approved (but not PBS approved for monotherapy) DPP-4 inhibitor, SGLT2 inhibitor GLP-1RA, or TZD

DUAL THERAPY: Choice of treatment – add on an oral agent or injectable therapy

Choice of dual therapy should be guided by clinical considerations (presence of, or high risk of, cardiovascular disease, heart failure, chronic kidney disease, hypoglycaemia risk, obesity), side effect profile, contraindications and cost.

SGLT2 inhibitor | DPP-4 inhibitor | GLP-1RA | SU | Insulin

Less commonly used are PBS approved: acarbose or TZD

MULTIPLE THERAPIES: Choice of treatment : include additional oral agent or GLP-1 RA or insulin

Choice of agents should be guided by clinical considerations as above. Note: combinations not approved by PBS include GLP-1RA with SGLT2i or GLP-1RA with insulin (#). Consider *stopping* any previous medication that has not reduced HbA1c by ≥0.5% after 3 months, **unless indicated for non-glycaemic benefits.**

SGLT2 inhibitor | DPP-4 inhibitor | GLP-1RA | SU | Insulin

Less commonly used are PBS approved: acarbose or TZD

THEN...

Primary Care Impact

- Less Involved QI – includes PIP QI measures
- More Involved QI – includes free access to Medicoach
- Project, new initiative or one-off service development

Diabetes

- Improve recording of blood pressure for patients with diabetes
- Improve recording of HbA1c results
- Set up or improve an HbA1c recall and reminder system
- Set up and monitor a diabetes register
- DiRECT-Aus Diabetes Remission Replication Project

Filter Results By

Keyword

Level

- [ ] Less Involved QI
- [ ] More Involved QI
- [ ] Project, new initiative or one-off service development

https://hnc.org.au/primary-care-impact-topic

Getting to know the multidisciplinary team

- Share how you contribute to the MDT
- Who is not at your table?
- What systems or tools do you use to support, monitor and coordinate care for diabetics in your practice?

Health Literacy, behaviour change and diabetes?

diabetes australia

nDSS
National Diabetes Services Scheme
An Australian Government Initiative

Case – 5 years later

David presents for review and driving medical

Medications

- Metformin 1g daily
- Insulin glargine 44iu nocte
- Rosuvastatin 5mg daily
- Irbesartan 150mg daily
- Pantoprazole 40mg daily

Hba1c - 56mmol/mol (7.3%)

Renal function

- eGFR 45
- Urine ACR 1.5

Lipids - HDL 1.0 mmol/L, LDL 1.7mmol/L, trig 1.8 mmol/L

Case – clinical dilemma

October 2022 Edit

	Glucose mmol/L	Carbs grams	Insulin units
Sat 1 Oct	3.5	0	0.0
9:24 am Before breakfast	3.5		
Wed 5 Oct	4.5	0	0.0
10:33 am Before bed	4.5		
Thu 13 Oct	6.8	0	0.0
9:48 am Before bed	6.8		
Sat 15 Oct	3.4	0	0.0
9:43 am Before bed	3.4		
Wed 19 Oct	5.3	0	0.0
10:34 am Before bed	2.5		
11:05 pm Before bed	8.2		
Thu 20 Oct	5.2	0	0.0
7:31 am Before breakfast	5.2		

All Gluc Carbs Insu +

Case – clinical dilemma

What advice do you provide David?

a) To reduce his insulin and make sure he carb loads before a ride – he’s ok to keep driving though

b) To stop driving for 2-4 weeks while his diabetes management is optimised

c) To stop driving for 6 weeks while his diabetes management is optimised by GP

d) To stop driving for 6 weeks while his diabetes management is optimised and see endocrinologist before driving again

Case – Clinical dilemma

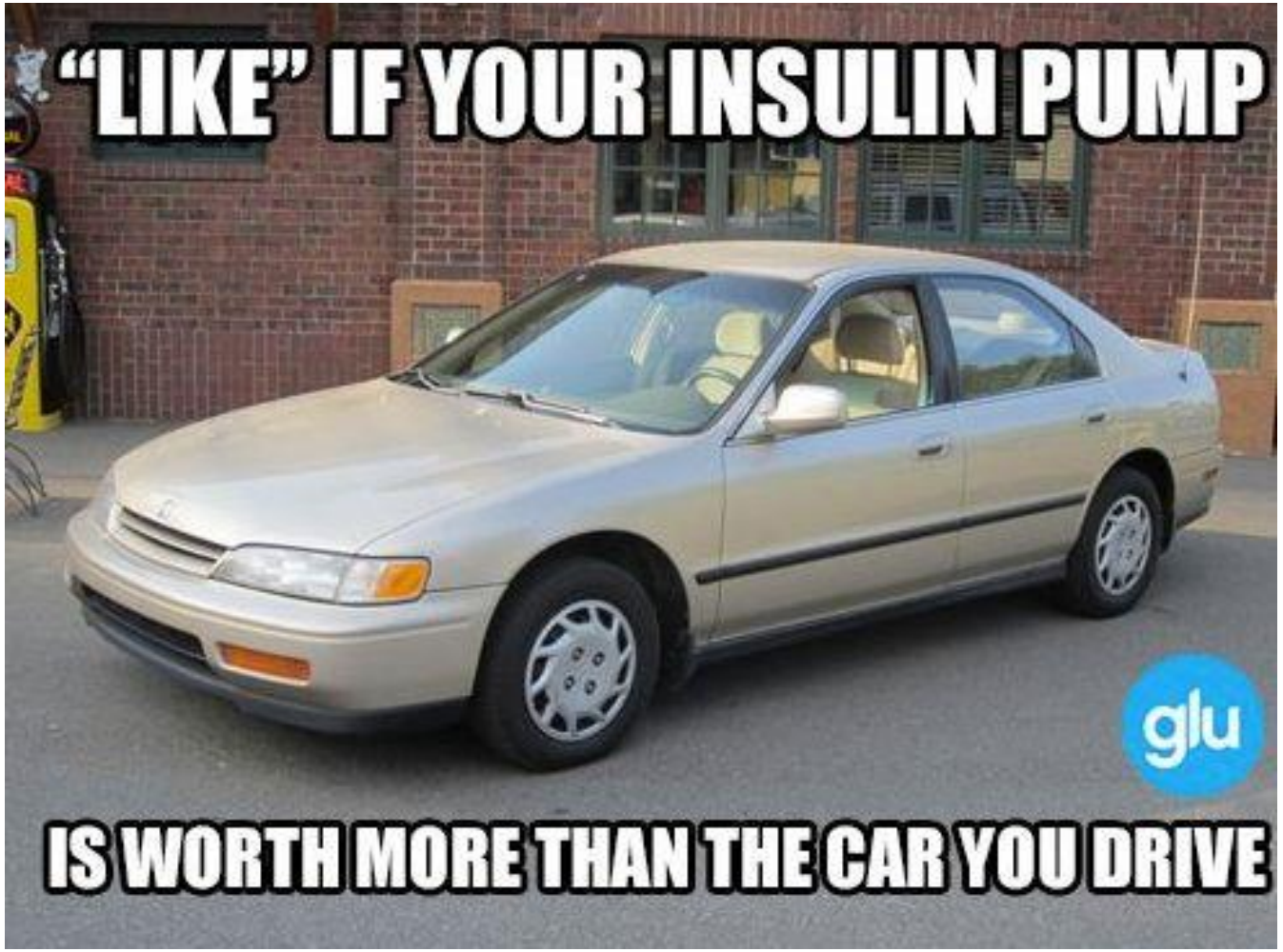
7. If concerns that licensing or driving criteria are not met, manage accordingly – See also Austroads – Assessing Fitness to Drive: Diabetes Mellitus:

- Mild hypoglycaemic event
- Persistent or recurrent hypoglycaemic events
- Severe hypoglycaemic event

> **Severe hypoglycaemic event**
>
> The patient should not drive for six weeks – and will need to be assessed by a specialist prior to returning to driving.

- Hyperglycaemia
- Intercurrent illness
- Complications or co-morbidities

Diabetes and driving - challenges



Driving and diabetes - challenges

Image credit – diabetes.org.uk

ndss
National Diabetes Services Scheme
An Australian Government Initiative

NDSS Helpline 1800 637 700
ndss.com.au

Find this resource at ndss.com.au

diabetes australia

Questions?

Wrap up – planting the seed for better preventive care

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