



# Western Australian Diabetes Standards

**Diabetes and Endocrine Health Network 2014**



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# Western Australia Diabetes Standards

The standards within this document are based on evidence from validated, referenced sources. They have been adapted for Western Australia (WA) and have been endorsed by the WA Diabetes and Endocrine Health Network following extensive consultation with partners across the health system.

The standards do not necessarily reflect the *current* availability and quality of services *throughout* WA; they are designed to indicate best practice and to be challenging and aspirational, yet realistically achievable within a ten year timeframe across the State (including in rural and remote areas). Flexibility will be required in their implementation in different areas, to take account of differing circumstances. The standards will guide development of future plans to connect and enable the WA Health care system to deliver consistent, sustainable and evidence-based services to improve the prevention and management of diabetes across the State. Implementation of the standards may necessitate the development of complementary documents, such as local care pathways, in due course. In recognition of the continual emergence of new research and evidence, the standards will be reviewed and updated over time.

## **Modern therapies, technology and resources**

Within the context of finite financial resources, the aim is to utilise the best available therapies, technology and other resources to support health professionals in delivering the best possible care.

## **Person centred care**

The standards are designed to be person-centred. The individual's values, beliefs, cultural and linguistic background, lifestyle and preferences should be taken into consideration at all times and services tailored accordingly, for example by offering interpreting services. Certain groups of people are at higher risk of having diabetes than others, for example, **Aboriginal** Australians experience significantly higher rates of diabetes and its complications than non-Aboriginal Australians.

## **Self-management**

Throughout the standards, there is an emphasis on encouraging the person at risk of/with diabetes to self-manage their health (recognising that diabetes is often linked with other long term conditions). Flexibility is needed to respond to the differing needs of individuals with differing levels of motivation and capacity to self-manage their diabetes, with appropriate support from their carers and/or health professionals.



## Key definitions/criteria used within the standards

**‘High risk’ of developing diabetes – any of the following risk factors would indicate high risk (based on AUSDRISK tool)<sup>1</sup>**

- People with impaired glucose tolerance or impaired fasting glucose
- Any Aboriginal person aged over ten years (or past the onset of puberty) who is overweight or obese, has a positive family history of diabetes, has signs of insulin resistance, has dyslipidaemia, has received psychotropic therapy, or has been exposed to diabetes in utero<sup>2</sup>
- Certain people of CALD (culturally and linguistically diverse) backgrounds aged 35 and over (specifically Pacific Islanders, people from the Indian subcontinent and people of Chinese origin)
- People aged 40 and over who have one or more of the following risk factors:
  - Obesity (BMI  $\geq 30$  kg/m<sup>2</sup>)
  - Hypertension
- All people with clinical cardiovascular disease (myocardial infarction, angina, stroke or peripheral vascular disease)
- Women with polycystic ovarian syndrome who are obese
- People on antipsychotic drugs
- Women with a history of gestational diabetes mellitus

Risk factors for gestational diabetes mellitus (GDM):-

- Previous GDM
- Ethnicity: Asian (including Indian), Aboriginal, Pacific Islander, Maori, Middle Eastern, non-white African
- Maternal age >40 years
- Family history of diabetes (1<sup>st</sup> degree relative with DM including sister with GDM)
- Obesity, especially if BMI (body mass index) >35 kg/m<sup>2</sup>
- Hypertension prior to 20 weeks
- Previous macrosomia (baby with birth weight more than 4000g)
- Previous baby with congenital abnormalities
- Polycystic ovarian syndrome
- Medications: corticosteroids, antipsychotics

### Pre-diabetes

Pre-diabetes (impaired glucose metabolism) includes two conditions: Impaired Fasting Glucose (IFG) and Impaired Glucose Tolerance (IGT), where the blood glucose levels are higher than normal but still not high enough to be diagnosed as type 2 diabetes.

## ‘Complex’/‘Highly Complex’ care

This type of care is required for:-

- All people with Type 1 diabetes
- People with Type 2 diabetes who require insulin and/or oral hypoglycaemic agents (OHAs) and have at least one other co-morbidity or complication requiring referral from community care. For pregnant women with Type 2 diabetes, complications may include fetal concerns such as fetal macrosomia (baby’s birth weight projected to be more than 4250g).
- Women with gestational diabetes mellitus (GDM) who require insulin and/or OHAs and who have at least one other co-morbidity or complication requiring referral from community care, including fetal concerns such as fetal macrosomia.

## Severe hypoglycaemia

- The person with diabetes requires the assistance of another person and cannot be treated with oral carbohydrate due to confusion or unconsciousness

## Multi-disciplinary diabetes team

The key relationships in diabetes care are between:-

- The person with diabetes
- Their family or carer (as appropriate)
- Their General Practitioner (GP)

**Care should be tailored to the individual’s requirements** and other members of the multi-disciplinary diabetes team may include the following health professionals (**note: this is not an exhaustive list, nor in priority order**):-

- Endocrinologist and/or General Medicine Specialist
- Credentialed Diabetes Educator or Diabetes Educator or Nurse Practitioner
- Accredited Practising Dietitian
- Pharmacist
- Podiatrist
- Psychologist/Social Worker
- Ophthalmologist/Optomist (with appropriate training)
- Exercise professional/Physiotherapist
- Renal specialist
- Cardiologist
- Neurologist
- Psychiatrist
- Dentist
- Aboriginal Health Worker



Multi-disciplinary diabetes teams are conventionally located in secondary and tertiary hospitals and can also be located in the community or provide services via telehealth.

## Telehealth

The term telehealth includes advice from one health care professional to another and/or consultation with a person who is receiving advice or care either by telephone or video conference. Telehealth enables tertiary and secondary level care to be provided where appropriate to support care given in community settings, notably in rural and remote areas.

## Person-centred care

Care which reflects consideration of the individual's own experience of health, illness or need, their personal definition of the situation and their goals and preferences.

## Self-management/care

An evolutionary process of development of knowledge or awareness by learning to survive with the complex nature of the diabetes in a social context. There are seven essential self-care behaviours in people with diabetes which predict good outcomes. These are:- healthy eating, being physically active, monitoring of blood sugar, compliance with medications, problem-solving skills, coping skills and risk-reduction behaviours.

## Community care

Care which is provided outside the hospital setting by a range of providers, including General Practitioners, Pharmacists, Aboriginal Medical Services, community groups and others.

## Specialist diabetes and obstetric management and care

- Screening for diabetes complications
- Diabetes education including advice on risk factors
- Blood glucose monitoring
- Prescription of insulin or oral hypoglycaemic agents ((OHAs) if deemed necessary.



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# 1. COMMUNITY CARE STANDARDS – FOR DETECTION AND MANAGEMENT OF PRE-DIABETES\*

## Standard 1.1

- a) A screening tool such as the AUSDRISK tool should be used to identify those who may be at high risk\* of developing diabetes.
- b) Adults over the age of 40 who are not already identified as high risk\* should be screened by a health care professional **every three years** to identify those at increased risk of having diabetes or of developing the disease in the next five years.
- c) For anyone who is identified as high risk\*, testing should be undertaken by an appropriately trained health care professional on an **annual basis** to detect pre-diabetes. The testing involves measurement of fasting plasma glucose (a blood test) and if there is an equivocal fasting or random plasma glucose result, an oral glucose tolerance test (OGTT) may also be required.<sup>1</sup>

## Standard 1.2

- a) Those identified through screening as being ‘pre-diabetic’\* or at high risk\* of developing diabetes should be informed by their health care professional as to the nature of their condition and appropriate self management strategies. They should be given appropriate advice on smoking, nutrition, alcohol and physical activity (SNAP) risk factor reduction.<sup>1, 3</sup> [ENREF 3](#)
- b) Care should be co-ordinated and integrated to ensure that the person at risk of diabetes has access to community based diabetes prevention services including evidence-based, intensive lifestyle behaviour change programs, delivered by an appropriately trained health care professional.<sup>4-6</sup>

\*Refer to key definitions/criteria section



## 2. INTEGRATED CARE STANDARDS – FOR PEOPLE WHO ARE DIAGNOSED WITH DIABETES AND ARE CARED FOR PRIMARILY IN THE COMMUNITY, WITH SECONDARY/TERTIARY INPUT WITHIN THIS SETTING, IF REQUIRED

### Standard 2.1

**At the time of diagnosis** and on at least an **annual** basis thereafter, people with diabetes should be assessed by their health care professional and encouraged to participate (with their carer, if appropriate) in an **annual** cycle of care planning, including setting individualised management goals (see Appendix 1 on page 17). **The assessment and care planning should preferably take place on a face to face basis or alternatively can be done via telehealth.** The assessment and diabetes management plan should be documented and should include (but not necessarily be limited to) the following:

- Diet
  - Physical activity
  - Weight
  - Medication
  - Potential complications, including foot, eye, renal (kidney), cardiovascular complications
  - Mental health, including cognition
  - Immunisation status
- Specialist referral should be undertaken if considered necessary.
  - At the time of diagnosis, people with diabetes should be informed about and encouraged to register with the National Diabetes Services Scheme (NDSS).

### Standard 2.2

For the main potential complications of diabetes, the level of risk should be identified and intervention based accordingly as follows:-

- a) Foot complications<sup>5</sup>
- Low risk – **at least annual** assessment
  - Intermediate – **at least six monthly** assessment
  - High (includes all Aboriginal people with diabetes until assessed otherwise) – **at least three monthly** assessment

See Appendix 2 for further details.

- b) Eye complications<sup>1,7</sup>
- All people with diabetes should have a dilated fundus examination and visual acuity assessment at the diagnosis of diabetes and **at least every two years**
  - Examine patients at high risk\* without diabetic retinopathy **at least annually**
  - Refer to an ophthalmologist urgently (for review **within four weeks**) if there is any suspicion of DME (diabetic macular edema) or PDR (proliferative diabetic retinopathy)





- Vision threatening retinopathy e.g. vitreous haemorrhage or new vessels on the optic disc should be referred to an ophthalmologist **immediately**

c) Renal (kidney) complications <sup>1,7</sup>

- Kidney status in people with type 2 diabetes should be assessed by **annual screening** for albuminuria (protein) in the urine and eGFR (estimate glomerular filtration rate).

d) Cardiovascular complications<sup>1</sup>

- Risk should be assessed using a diabetes-specific absolute vascular risk calculator (the Fremantle Diabetes Study Calculator can be used) and categorised as follows:-
  - High risk - > 15% chance of a cardiovascular event in the next five years
  - Moderate - 10-15 %
  - Low risk – < 10%

The risk assessment will guide intensity of cardiovascular risk management. There is no evidence that there is benefit in screening (using exercise stress tests or equivalent investigation) asymptomatic individuals with diabetes even though silent myocardial ischemia is much more common in people with diabetes.

e) Other complications, for example, dental complications, mental health issues (notably cognition and depression).

Any active significant complications should be assessed and managed by a multidisciplinary team\* **within 24 hours**. **This should preferably be done face to face or alternatively can be done via telehealth.**

\*Refer to key definitions/criteria section

### Standard 2.3

**From the time of diagnosis**, people with diabetes and their carers should have access to structured diabetes self-management education and support, with access to an **annual review** and **ongoing** education and support. The education and support program should cover the following<sup>6, 8</sup>:-

- Knowledge and understanding (includes application of knowledge)
- Self-determination (includes confidence, empowerment and capacity for decision making)
- Self-management (includes skills, practices and behaviours)
- Psychological adjustment (includes wellbeing and quality of life).



**Standard 2.4**

In addition to self-management education and support plus other measures, people with diabetes should be prescribed medication to help to achieve their individualised glycaemic target and to manage their personal risk factors. Prescribing should be in accordance with current National Health and Medical Research Council (NHMRC) guidelines<sup>1</sup> and the Australian Diabetes Society (ADS) guidelines.<sup>9</sup>

**Standard 2.5**

- Insulin therapy should be prescribed as required by a registered medical practitioner/registered nurse practitioner.
- Insulin therapy should be initiated and managed by an appropriately trained health care professional as part of the diabetes management plan. There should be **on-going** support for the person with diabetes and/or their carer to adjust insulin doses based on their monitoring of blood glucose.<sup>6</sup>



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### 3 COMPLEX CARE\* STANDARD – SECONDARY LEVEL CARE REQUIRED

#### Standard 3.1

- People with complex diabetes should receive secondary level care from the multi-disciplinary diabetes team.<sup>6</sup>
- People with diabetes should be encouraged where appropriate to self-monitor and manage their own insulin (with support from their carer as required). The registered medical practitioner should consider to what extent the individual has the willingness, capacity and self-management skills to do this.<sup>6</sup>
- Appropriate discharge planning should be an integral part of in-patient care by the multi-disciplinary team.

\*Refer to key definitions/criteria section



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## 4 HIGHLY COMPLEX\* CARE STANDARD – TERTIARY LEVEL CARE REQUIRED

### Standard 4.1

- People with highly complex diabetes should receive tertiary level (specialist) care from the multi-disciplinary diabetes team\*.

### Standard 4.2

- People with diabetes who have experienced severe hypoglycaemia\* should be assessed and managed by the multi-disciplinary diabetes team\* **within 24 hours**. This should preferably be done face to face, or alternatively can be done via telehealth.<sup>6</sup>
- People with diabetes should be encouraged where appropriate to self-monitor and manage their own insulin (with support from their carer as required). The registered medical practitioner should consider to what extent the individual has the willingness, capacity and self-management skills to do this.<sup>6</sup>
- Appropriate discharge planning should be an integral part of in-patient care by the multi-disciplinary team.

### Standard 4.3

- People admitted to hospital with diabetic ketoacidosis should be assessed and managed by the multi-disciplinary diabetes team\*. As part of the individual's care, they should be encouraged to access educational and psychological support as required.<sup>6</sup>
- Appropriate discharge planning should be an integral part of in-patient care by the multi-disciplinary team.

\*Refer to key definitions/criteria section



## 5 STANDARDS OF CARE FOR CHILDREN AND ADOLESCENTS (i.e. UNDER THE AGE OF 18) WITH DIABETES

### Standard 5.1

- Children and adolescents with diabetes should be provided with **tertiary level care from diagnosis** by a multidisciplinary diabetes team trained and experienced in paediatrics and adolescent care.<sup>10, 11</sup> The specialist multi-disciplinary team for children and adolescents should normally comprise:- Paediatric Endocrinologist, Diabetes Nurse Specialist, Dietitian and mental health professional (Social Worker and/or Psychologist).
- Management of diabetes in children should be patient/family centred, with an emphasis on facilitating self management. The focus changes from the parents for very young children to the child and adolescent depending on age and developmental stage.<sup>10, 11</sup>
- Services for children and adolescents should be delivered in facilities which are appropriate for their developmental stage (i.e. facilities which are either 'child friendly' or 'adolescent friendly').<sup>10, 11</sup>
- All children and adolescents should be able to have access to modern therapies, including pump therapy and continuous glucose monitoring, as appropriate.<sup>10, 11</sup>

### Standard 5.2

- **Following diagnosis** there should be an intensive education and clinical stabilisation period during which the child/adolescent is seen frequently and therapy is defined.<sup>11</sup>
- Following this phase, routine clinical assessment and care should be provided at least **three monthly**. This includes HbA1c review, diabetes education revision, specific diabetes therapy adjustment and review, dietary and mental health review and complication screening.<sup>11</sup>

### Standard 5.3

- Children and adolescents with diabetes and their carers should be offered **24 hour telephone access** to specialist advice from an appropriately trained health care professional to prevent and treat acute complications of diabetes.<sup>11</sup>

**Standard 5.4**

Transition to adult care should be made at a **developmentally appropriate age** and requires close liaison between the multidisciplinary paediatric diabetes team and adult diabetes services.<sup>11</sup>

- A plan should be developed for transition to adult services, with increasing responsibility being given to the individual (graduating to them seeing health professionals on their own).
- The plan should take into account the individual’s risk factors and service provision should be tailored accordingly, with those individuals identified at high risk being offered the highest level of care.
- The individual and their carer should be encouraged to participate in the planning process.



## 6 STANDARDS OF CARE FOR WOMEN WITH DIABETES BEFORE, DURING AND AFTER PREGNANCY<sup>12</sup>

### **BEFORE PREGNANCY**

#### **Standard 6.1**

Women of child-bearing age who are diagnosed with diabetes should be informed of the benefits of preconception glycaemic control and of any risks (including medication) to an unborn child. This should be done **at diagnosis** and as part of the **annual** assessment and care planning cycle thereafter (see Standard 2.1 on page 8). Women with diabetes planning a pregnancy should be offered preconception care and those not planning a pregnancy should be offered advice on suitable contraception.

### **DURING PREGNANCY AND IN CHILD BIRTH - ANTE-NATAL AND INTRA-PARTUM DIABETES CARE**

#### **Standard 6.2**

- Women at high risk of gestational diabetes mellitus (GDM)\* should be screened (using the 75g oral glucose tolerance test (OGTT)) at the first opportunity after conception, **if this has not already been done previously**. If initial (early) testing is negative, then women at high risk of GDM should continue to be monitored closely and undergo repeat testing.
- Pregnant women at low risk of GDM should be screened at **24-28 weeks**. Note: the diagnosis of diabetes in pregnancy will include those women with previously undiagnosed abnormalities of glucose tolerance, as well as women with glucose abnormalities related to the pregnancy alone.

\*Refer to key definitions/criteria section

#### **Standard 6.3**

- Pregnant women with diabetes should be referred to a multidisciplinary team trained and experienced in diabetes and obstetric management and care. The team should normally comprise:- Specialist Obstetrician +/- GP Obstetrician, Obstetric Physician, Credentialed Diabetes Educator/Diabetes Educator, Diabetes Nurse Practitioner, Clinical Midwifery Consultant / Clinical Midwives, Social Worker and Dietitian. Women living in rural and remote areas may be offered specialised management and care through telehealth in association with their local medical officer (GP or obstetrician), with probable delivery at a tertiary centre.

- A management plan should be formulated in consultation with the woman with diabetes (and her partner/carer, if appropriate). Women requiring insulin or oral hypoglycaemic agents (OHAs) should have regular contact with the diabetes team for adjustment of medication.

#### Standard 6.4

- For women requiring insulin or OHAs, an elective birth should be arranged at **38-39 weeks** (or earlier if clinically indicated).
- Elective Caesarean Section should be considered if the estimated foetal weight >4250 g or the fetal abdominal circumference >40 mm more than head circumference.
- All women with GDM for induction of labour or Caesarean Section who are on insulin or OHAs should have the plan for their intrapartum and postpartum management discussed and documented during antenatal clinic visits at **34–36 weeks**.

#### *AFTER PREGNANCY - POST-NATAL DIABETES CARE*

#### Standard 6.5

On discharge from obstetric care:

- Women with Type 1 and Type 2 diabetes should be referred back to their usual diabetes services provider(s) for support with ongoing management which may, especially in the case of those with Type 1 diabetes, include the possible change in insulin requirements with breast feeding.
- Women with GDM should be referred back to their GP and offered advice reinforcing lifestyle changes necessary to prevent/delay the onset of future type 2 diabetes.
- Women with GDM should be offered an OGTT **six-eight weeks** and **two years** post partum.





## Appendices

### 1) Goals for optimum diabetes management<sup>1</sup>

BGL	Ideal 4.0–6.0 mmol/L (fasting). For pregnant women - <5.5 mmol/L (fasting) <sup>13</sup> NHMRC 6.1–8.0 mmol/L (fasting). For pregnant women - 2 hour post prandial <7.0 mmol/L <sup>13</sup>
HbA1c	≤7% - should be individualised based on age, complications, etc.
Total cholesterol	<4.0 mmol/L*
HDL-C	>1.0 mmol/L*
LDL-C	<2.0 mmol/L*
Non-HDL-C	<2.5 mmol/L*
Triglycerides	<2.0 mmol/L*
Blood pressure	≤130/80 mm Hg
BMI	18-24.9 kg/m <sup>2</sup> where appropriate or a ≥10% reduction of body weight. Race-specific waist circumference reference ranges are available and can be used as alternative/additional goals.
Urinary albumin excretion	<3.5 mg/mmol: women <2.5 mg/mmol: men (albumin creatinine ratio) <20 µg/min (timed overnight collection)
Cigarette consumption	Zero
Alcohol intake	≤ 2 standard drinks (20 g) per day for men and women to reduce the lifetime risk of harm from alcohol-related disease or injury <sup>14</sup>
Physical activity	At least 30 minutes walking (or equivalent) 5 or more days/week (Total ≥150 minutes/week)

Note - the above goals apply primarily to adults with diabetes.

## 2) WA Foot care standards and clinical guidelines for people with diabetes

Summarised from:-

- WA Cardiovascular and Diabetes & Endocrine Health Networks, Model of Care for High Risk Foot, 2010 (MOC)
- NHMRC: National Evidenced based guideline for prevention, identification and management of foot complications in Diabetes, 2011 (NHMRC)
- Australian Diabetic foot network: Management of Diabetes related foot ulceration – A clinical Update. MJA 226 197 (4) · 20 August 2012 (ADFN)
- National Institute of Clinical Excellence, UK (NICE)

### Section 1

Low – High Risk	Broad Standard	Specific details	Evidence
1	All people diagnosed with Type 1 and 2 Diabetes to receive foot care education and self management advice relative to their level of risk (See 4)		NHMRC MOC
2	Until adequately assessed all Aboriginal people with Diabetes are considered to be high risk for foot complications and require foot checks at every clinical encounter and active follow up.		NHMRC
3	Foot screening can be performed by any health professional who has received appropriate training in foot screening,	<p>Foot screening has been shown to reduce the incidence of foot complications through early detection and enable proactive management of risk factors.</p> <p>Foot screening includes</p> <ul style="list-style-type: none"> <li>○ Enquiring about previous foot ulceration and amputation</li> <li>○ Visually inspecting the feet for deformity</li> <li>○ Assessment of neuropathy with either 10g monofilament or neuropathy disability score</li> <li>○ Palpation of foot pulses</li> <li>○ Assessment of footwear</li> </ul>	NHMRC MOC
4	<p>All people with diabetes to receive foot screening/assessment and have their foot risk stratified in the following manner:</p> <ul style="list-style-type: none"> <li>▪ Low risk - no identified risk factors</li> <li>▪ Intermediate risk - one identified risk factor</li> <li>▪ High Risk = two or more identified risk factors and/or previous significant complication history</li> </ul>	<p>Identified risk factors include</p> <ul style="list-style-type: none"> <li>▪ Loss of protective sensation (insensate to 10g monofilament)</li> <li>▪ Deformity</li> <li>▪ Peripheral Arterial Disease (PAD)</li> </ul> <p>Previous significant history of foot complication includes</p> <ul style="list-style-type: none"> <li>▪ Amputation</li> <li>▪ Foot ulceration</li> </ul>	NHMRC

	<ul style="list-style-type: none"> <li>Active significant foot complication</li> </ul>	<ul style="list-style-type: none"> <li>Severe infection</li> <li>Chronic/stable Charcot foot</li> </ul> <p>A significant active foot complication includes</p> <ul style="list-style-type: none"> <li>Ulceration below the ankle with or without infection</li> <li>Severe infection e.g. cellulitis, osteomyelitis or Abscess</li> <li>Recent amputation</li> <li>Gangrene/necrosis</li> <li>Active/acute Charcot foot</li> </ul>	
5	Podiatry intervention is based on a person with Diabetes' identified stratification of risk.	<ul style="list-style-type: none"> <li>All people identified as low risk to have an annual foot screening/examination as a minimum requirement.</li> <li>All people identified as Intermediate risk to have 6 month foot assessment/examination as a minimum requirement.</li> <li>All people identified as high risk to have 3 monthly Podiatry review as a minimum requirement.</li> <li>Minimum review of active foot complications are based on the presenting problem.</li> <li>Variation from these time frames (more or less frequent) can be specified by the podiatrist if deemed clinically necessary.</li> </ul>	NHMRC MOC
6	Where possible all Identified risk factors should be managed proactively to prevent ulceration / deterioration	<p>For example</p> <ul style="list-style-type: none"> <li>Access to appropriate footwear and customised orthotics to accommodate deformity and reduce the risk of ulceration with neuropathy as deemed clinically necessary to reduce or manage significant risk by Podiatrist and/or specialist.</li> <li>All people with PAD to receive regular evidenced based vascular assessment to monitor for deterioration and enable timely proactive referral to specialist for intervention.</li> </ul>	MOC

## Section 2

Management of active foot complications	Standard	Specific details	
1	<p>People with acute, or chronic complex Diabetic foot ulceration are best managed by a multidisciplinary foot ulcer team (MDFUT) For patients requiring urgent medical attention clear rapid access referral pathway to MDFUT are to be initiated within 24 hours of presentation.</p>	<p>MDFUT includes Podiatrist, wound care nurse, medical governance and access to the following specialists:</p> <ul style="list-style-type: none"> <li>▪ Endocrinologist/Diabetologist</li> <li>▪ Vascular</li> <li>▪ Infectious Disease/Microbiology</li> <li>▪ Orthopaedics</li> </ul> <p>Utilisation of expert remote wound care consulting with digital imaging /telehealth to MDFUT members should be made available to those people with diabetic foot ulcers living in remote areas.</p> <p>If a comprehensive MDFUT is not accessible locally and the patient is not acutely unwell implementation of gold standard care of a diabetic foot ulcer can be provided by GP and Podiatrist and/or wound care nurse as minimum team members.</p>	<p>NHMRC MOC ADFN NICE</p>
2	<p>Referral to MDFUT is advised if</p> <ul style="list-style-type: none"> <li>▪ No improvement after 4 weeks of gold standard evidence based practice</li> <li>▪ Deterioration of the wound with gold standard evidence based practice</li> <li>▪ Foot ulcer to tendon/bone</li> <li>▪ Cellulitis /abscess</li> <li>▪ Absent pulses</li> <li>▪ Necrosis</li> <li>▪ Suspected Charcot</li> </ul>	<ul style="list-style-type: none"> <li>▪ Gold standard practice includes <ul style="list-style-type: none"> <li>○ Comprehensive history, neuro-vascular and wound assessment,</li> <li>○ Medical assessment and management of underlying condition(s) / infection</li> <li>○ Offloading and debridement</li> <li>○ Promote moisture and bacterial balance with appropriate dressings</li> <li>○ Patient centred wound care plan</li> <li>○ Education and self management</li> </ul> </li> <li>▪ A foot ulcer is serious medical condition and needs to be managed immediately by health professionals with relevant skills and experience.</li> <li>▪ Rapid referral pathway from rural/remote locations to include access to experts via remote consultation/telehealth.</li> </ul>	<p>NHMRC MOC ADFN</p>
3	<p>Immediate referral to Emergency Dept if</p> <ul style="list-style-type: none"> <li>▪ Ascending Cellulitis</li> <li>▪ Systemic symptoms of infection</li> <li>▪ Limb threatening ischaemia/necrosis</li> </ul>		<p>NHMRC MOC ADFN</p>

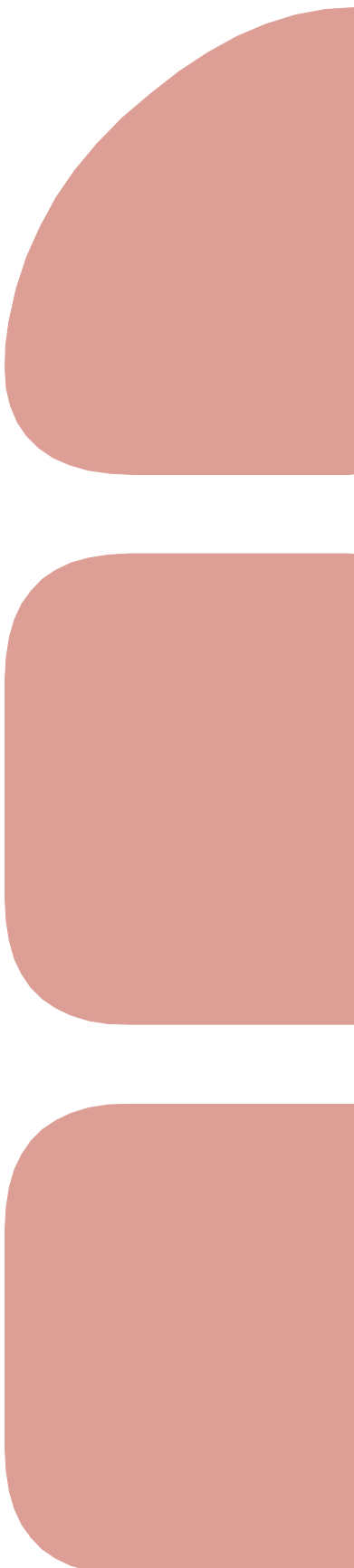
4	Clinically infected Diabetic foot ulceration must be treated immediately with systemic antibiotics and cultured by deep tissue swabs taken after debridement or by tissue samples, for identification of microorganisms and antibiotic sensitivities.		ADFN
5	Grading of foot ulcers identifies degree of risk to person and limb. The University of Texas Wound Grading System (UTWGS) is the most preferred system as stated in the NHMRC guidelines and is to be used in WA	<ul style="list-style-type: none"> <li>▪ UTWGS grades severity of diabetic foot ulcers dependant on the combination of depth, infection and ischaemia. Range grade A0 to D3.</li> <li>▪ Higher the letter / number combination the <ul style="list-style-type: none"> <li>○ Greater the complexity</li> <li>○ Likely extended healing time</li> <li>○ Higher need for specialist input</li> <li>○ Combination of medical and surgical management approaches required</li> </ul> </li> </ul>	NHMRC MOC ADFN
6	Offloading is required to optimise healing of plantar wounds, If not contraindicated this can be achieved with total contact cast or other offloading device made irremovable.	<ul style="list-style-type: none"> <li>▪ All people with foot ulceration should be provided with the most appropriate and effective offloading relative to their wound and personal risk factors e.g. falls risk.</li> </ul>	NHMRC MOC ADFN
7	Regular sharp debridement should be performed on all non-ischaemic foot wounds by a trained health professional to optimise healing.		NHMRC MOC ADFN
8	A comprehensive wound care plan is tailored to the wound aetiology, patient's specific circumstances and the wounds presenting characteristics and reviewed at least on a fortnightly basis		NHMRC MOC ADFN
9	All people with Diabetes who present or are admitted to a WA Hospital with an active foot complication are to be assessed by and followed up as regularly as deemed appropriate by high risk podiatry service to prevent recurrence and readmission.	Utilisation of expert remote wound care consulting with digital imaging /telehealth to MDFUT members should be made available to those people with diabetic foot ulcers living in remote areas.	MOC

## References

1. Diabetes Australia. Diabetes Management in General Practice: Guidelines for Type 2 Diabetes; 2012.
2. Azzopardi P, Brown AD, Zimmet P, Fahy RE, Dent GA. Type 2 diabetes in young Indigenous Australians in rural and remote areas: diagnosis, screening, management and prevention. Medical Journal of Australia (MJA) 2012;197(1).
3. American Diabetes Association (ADA). Standards of Medical Care in Diabetes. 2013.
4. Diabetes Australia. A National Diabetes Strategy and Action Plan. 2013.
5. National Health and Medical Research Council (NHMRC). National Evidence-Based Guideline: Prevention, Identification and Management of Foot Complications in Diabetes. 2011.
6. National Institute for Health and Care Excellence (NICE). NICE Quality Standards for Adults with Diabetes; 2011.
7. National Health and Medical Research Council (NHMRC). National Evidence Based Guideline for the Primary Prevention of Type 2 Diabetes 2009.
8. National Health and Medical Research Council (NHMRC). National Evidence Based Guideline for Patient Education in type 2 Diabetes. 2009.
9. Australian Diabetes Society (ADS). Draft Australian Blood Glucose Treatment Algorithm; 2014.
10. Department of Health. National Service Framework for Diabetes: Standards. London; 2001.
11. Craig ME, Twigg SM, Donaghue KC, Cheung NW, Cameron FJ, Conn J, et al. National evidence-based clinical care guidelines for type 1 diabetes in children, adolescents and adults. Canberra: Australian Government Department of Health and Ageing; 2011.
12. King Edward Memorial Hospital. Clinical Guidelines Section B: Guidelines for Obstetrics and Midwifery, Diabetes in Pregnancy. 2012.
13. Nankervis A, McIntyre HD, Moses R, Ross GP, Callaway L, Porter C, et al. ADIPS Consensus Guidelines for the Testing and Diagnosis of Gestational Diabetes Mellitus in Australia. Australasian Diabetes in Pregnancy Society (ADIPS); 2013.
14. National Health and Medical Research Council (NHMRC). Australian Guidelines to Reduce Health Risks from Drinking Alcohol. 2009.

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