

# Caring for older people with diabetes

## Think 'person' not 'diabetes'

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**Older people with diabetes have different care needs to younger people with diabetes. The management focus changes from tight blood glucose control to the maintenance of function, safety and quality of life. Care must be tailored to the individual.**

**O**lder age is a risk factor for diabetes: approximately 20% of older people have diabetes and 20% are at risk.<sup>1</sup> More than 25% of people in residential aged care facilities have known diabetes.<sup>2</sup> Type 2 diabetes is the most common, but people with type 1 diabetes are living longer and type 1 diabetes can be diagnosed in older age.

Most older people with diabetes have between three and five diabetes complications and other comorbidities, which complicate care. Diabetes is the sixth leading cause, or underlying cause, of death in older people, and is often associated with (or a cause of) cardiovascular disease.<sup>3</sup> The trajectory to death is characterised by intermittent episodes of deterioration and recovery or by gradual decline as reserves are exceeded.

This article outlines some management challenges that GPs encounter in the care of older people with diabetes and suggests some strategies for addressing these challenges.

### Key management challenges

#### Providing evidence-based care

Evidence-based care of older people with diabetes is desirable, but patients aged 70 years and over are not often enrolled in randomised control trials and so there is limited clinical evidence for this age group. Thus, many management recommendations

MedicineToday 2017; 18(4): 73-76

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are extrapolated from studies involving functionally independent older people or younger people with diabetes, who have very different care needs to the over-70 age group, especially those in residential aged care facilities.

#### Defining 'older age'

'Older age' is defined as age 65 years and over.<sup>4</sup> However, chronological age is not a good basis for deciding care. Older people are highly individual and often do not think of themselves as 'old'. Care must be tailored to suit an individual's health status, life expectancy, risks, goals, preferences and values.

#### Personalising care

Personalising care can be difficult unless a GP and patient listen to each other and discuss available care options so that the patient understands the risks and benefits of each. However, not all older people can be or want to be involved in care decisions, especially when they are unwell. Determining an individual's likely health risks and prognosis can be challenging, even using standard risk calculators and assessment tools.

#### Managing the changing nature of diabetes

The diagnosis of type 1 diabetes can be delayed in older people, resulting in under-treatment and significant morbidity. Type 1 diabetes of long duration may be accompanied by complications such as renal disease and hypoglycaemic unawareness.<sup>5</sup>

Type 2 diabetes is characterised by multiple underlying pathological changes and may be longstanding in older people, with vascular, neurological and other complications present at diagnosis. It is important to manage cardiovascular risk by promoting a healthy lifestyle and using medications to control blood glucose, lipid levels and blood pressure and preserve renal function.

As the duration of diabetes increases, GP care and self-care become increasingly complex and burdensome. Polypharmacy is common and has associated risks; however, 'thoughtful polypharmacy' is often necessary to treat underlying pathological changes.

## 1. CARE OF OLDER PEOPLE WITH DIABETES: USEFUL RESOURCES

- *Older people in hospital*  
Department of Health and Human Services, Victorian Government  
– [www2.health.vic.gov.au/hospitals-and-health-services/patient-care/older-people](http://www2.health.vic.gov.au/hospitals-and-health-services/patient-care/older-people)
- *The McKellar guidelines for managing older people with diabetes in residential and other care settings*  
Dunning T, Savage S, Duggan N, 2013  
– [www.adma.org.au/clearinghouse/doc\\_details/133-the-mckellar-guidelines-for-managing-older-people-with-diabetes-in-residential-and-other-care-settings\\_9dec2013.html](http://www.adma.org.au/clearinghouse/doc_details/133-the-mckellar-guidelines-for-managing-older-people-with-diabetes-in-residential-and-other-care-settings_9dec2013.html)
- *Caregiver health*  
Family Caregiver Alliance  
– [www.caregiver.org/caregiver-health](http://www.caregiver.org/caregiver-health)
- *Global guideline for managing older people with type 2 diabetes*  
International Diabetes Federation, 2013  
– [www.idf.org/guidelines-older-people-type-2-diabetes](http://www.idf.org/guidelines-older-people-type-2-diabetes)
- *General practice management of type 2 diabetes: 2016–18*  
Royal Australian College of General Practitioners and Diabetes Australia  
– [www.racgp.org.au/your-practice/guidelines/diabetes](http://www.racgp.org.au/your-practice/guidelines/diabetes)

### Managing metabolic parameters

Tight blood glucose control may not be indicated or safe in an older person with diabetes. Safe glucose targets need to be determined for the individual.

Hypoglycaemia has serious consequences and often presents with neuroglycopenic symptoms rather than textbook autonomic symptoms; consequently, hypoglycaemia can be missed and treatment delayed.<sup>6</sup> Hypoglycaemia is associated with falls, short-term cognitive changes and dementia in the longer term, myocardial infarction and increased risk of death.<sup>7</sup>

Hyperglycaemia is not a benign condition in older people. It contributes to short-term cognitive changes, delirium, dehydration and electrolyte changes, as

well as ketoacidosis in type 1 diabetes or hyperosmolar states in type 2 diabetes.<sup>6</sup>

### Understanding atypical symptoms and treating the 'right' underlying cause

Older people with diabetes often present with atypical symptoms, which creates difficulty for recognising deterioration, hyper- and hypoglycaemia, myocardial infarction and infections (e.g. absence of fever and generalised weakness may be a presentation of these conditions). Therefore, some current education information might not be helpful if it covers only the typical clinical features. GPs, patients and their family carers and staff need to learn to recognise and act on changing symptomatology and body cues.

### Managing lifestyle

Malnutrition (often undernutrition) is common, including in individuals who are overweight. However, weight loss can reduce muscle mass, exacerbate sarcopenia and frailty and contribute to falls and might be undesirable in obese older people.<sup>8</sup> Depression, functional decline, eating disorders and/or dysphagia contribute to undernutrition. Cancer and thyroid disease, which can be underlying causes of weight loss, need to be identified and managed. Weight loss of more than 10% is one indicator of approaching death.<sup>9</sup>

Elder abuse is relatively common and needs to be considered. It often accompanies significant functional changes. The abuse is often financial but can also be psychological, physical or sexual or all of these. Elder abuse can present as injuries due to falls and other trauma, and may be denied by the patient.

### Managing mental health and cognitive changes

Cognition can be affected temporarily by hypo- and hyperglycaemia, both of which contribute to long-term cognitive changes and dementia.<sup>6,7</sup> Cognitive changes often affect executive functions (problem-solving, decision-making and memory), which in turn affect self-care capacity as

well as the communication and education strategies likely to be effective.

Depression and diabetes-related distress have many underlying causes. These include the onset of dementia, admission to a residential aged care facility and the death of a loved one, including a beloved pet.

### Overarching care goals and management strategies

There are many practical strategies that GPs can use to manage the challenges associated with the care of older people with diabetes. Excellent communication, observation and assessment skills are essential elements of care. The key is to think 'person' not 'diabetes'. The three overarching goals of care are:

- developing appropriate tailored care plans likely to reduce risks and maintain independence, social connections, function and quality of life for as long as possible
- reviewing the care plan regularly
- helping the individual achieve their preferred death.

Useful online resources are listed in Box 1.

### Plan early for older age

The care of patients in older age should be planned proactively in order to reduce health risks. Measures include management of cardiovascular disease by promotion of a healthy diet and activity and by use of glucose-lowering medications, lipid-lowering agents, aspirin and antihypertensive agents as appropriate. The risk of postural hypotension should be considered as an individual ages.

Complications and comorbidities should be identified early and treatment initiated. This might include adjusting glucose-lowering medications (type, dose, dose interval) when renal function declines. These conditions are assessed during the annual diabetes check (annual cycle of care).

### Use existing guidelines and prescribing algorithms

Existing guidelines and prescribing algorithms should be used to discuss and plan

care with older people with diabetes. Issues to discuss include current health status and life expectancy, as well as evidence for the benefits and risks of available treatments. Other factors to consider include a person's social situation, resources and support systems and their personal values, preferences and goals. Family carers may need to be included in care discussions.

### **Assess patients for key health issues and risks**

Key health issues and risks need to be assessed from a young age. These include cardiovascular disease, hypo- and hyperglycaemia, osteoporosis, falls, fracture, pain, risk of medication-related adverse events and depression. Frailty, functional decline and reduction in quality of life are also important considerations. Information gained from assessment can be used to guide use of re-ablement (restorative care) and rehabilitation programs where indicated, with the aims of regaining previous strength and ability and maximising function.

Many factors contribute to falls, and a risk assessment can help GPs develop preventive strategies relevant to the individual and their situation. Older people are at risk of traumatic fractures and concussion when they fall. Exercise to improve muscle strength and flexibility and good nutrition are important strategies for prevention.

### **Use an individual risk–benefit perspective to define targets**

The benefit of tight glycaemic control early in the course of diabetes to prevent complications is well established. However, the value of tight control for older patients with a long duration of diabetes and limited life expectancy is debatable. For older people with functional deficits, dementia or at the end of life, the management focus is minimising risk. It is important to ensure blood glucose target ranges used in aged care facility residents are safe for the individual.<sup>10</sup> Between 4 and 15 mmol/L is a recommended usually safe range for most older people but the specific range should be personalised according to risk profile and

life expectancy. Blood glucose and HbA<sub>1c</sub> target ranges must be individualised, considering hypoglycaemia risk and other risks (e.g. falls). Generally recommended HbA<sub>1c</sub> targets are 7 to 7.5% in people with few functional deficits and low hypoglycaemia risks, and up to 8% in people with functional deficits and/or high hypoglycaemia risks.<sup>2,10</sup>

Management of hyperglycaemia should promote comfort and reduce the effects on cognition, decision-making and intercurrent infections. It is important to determine whether hyperglycaemia indicates an infection, such as a foot, urinary tract or respiratory infection. The treatment of isolated episodes of hyperglycaemia with top-up/stat insulin doses should be avoided in aged care facility residents. Top-up doses do not treat the underlying cause of the hyperglycaemia and create a cycle of rebound hypoglycaemia and hyperglycaemia. A sick-day care plan should be developed in consultation with the person and/or family carers.

### **Be pharmacovigilant**

Managing medications in older people with diabetes is complex and requires 'thoughtful polypharmacy'. This involves:

- using nonpharmacological treatment options when possible
- selecting medications on the basis of individual need and comprehensive assessment – an algorithm can offer guidance but decisions should be based on clinical need
- reviewing the medication regimen and, when possible, stopping medications before prescribing new ones
- arranging or undertaking regular medication reviews, including Home Medicine Reviews
- assessing an individual's hypoglycaemia risk, including renal function, especially when prescribing insulin and sulfonylureas.

Strategies to reduce the risk of hypoglycaemia include timing meals to match the action profile of a medication, monitoring blood glucose regularly, checking for nocturnal hypoglycaemia and avoiding top-up/stat doses of insulin for people in residential

aged care facilities. In addition, patients, carers and staff can be educated to recognise atypical hypoglycaemia and counselled to have a 'hypo kit' available (and to ensure the expiry date for glucagon has not passed).

Medication-related outcomes can be monitored using clinical and biochemical assessments and medication reviews. Self-management behaviours regarding medications should be checked, as should the accuracy of medications in dose aids, especially if the individual or a family member packs them. Patients should also be asked about their use of complementary medicines.

### **Assess and manage pain**

Pain is common in older people with diabetes and can be debilitating, reducing function, quality of life and sleep quality. It is multifaceted, associated with medication side effects, complications and comorbidities. Pain needs to be identified early and treated appropriately, using non-pharmacological options when possible. If medication is required, simple analgesics should be trialled before proceeding to stronger agents, if necessary.

### **Undertake assessments that are specific to 'older age'**

The diabetes annual cycle of care, which focuses on complication screening, is an essential component of care. However, more is needed for older people with diabetes. A geriatric assessment and medicine review are often required, and physical and cognitive function and diabetes self-care capability should be reviewed. The potential benefits of incorporating palliative care with usual diabetes care for improving function and quality of life might also be discussed.

### **Check mental health, cognition and wellbeing**

Mental health, cognition and wellbeing need to be checked, as part of the diabetes annual cycle of care and at other opportunities. Depression and diabetes-related distress are common and can be difficult to detect in older people with dementia.



Elder abuse may present as depression. Delirium can be associated with some medications.

Quality of life can be assessed using standardised validated tools. However, clinicians should also consider monitoring

the individual's top three to five quality of life issues or interests (e.g. pets), as these are more likely to reflect issues relevant to them.

Communication between visits, such as phone calls, improves glycaemic control and self-care and also assists in maintaining function and reducing diabetes-related distress.<sup>5</sup>

increases the likelihood that an older person with diabetes will have poor outcomes and reduced quality of life. Ensuring that the family carer has a care plan, which could include respite care, is important. Older carers are also at high risk of illness and sudden death when their loved one dies.<sup>11,12</sup>

## 2. CARE OF OLDER PATIENTS WITH DIABETES: MANAGEMENT SUMMARY

- Plan early for older age. The key is to think 'person', not 'diabetes', and to plan proactively for likely care and life transitions.
- Use existing guidelines and prescribing algorithms to discuss and plan care.
- Assess patients for key health risks. Examples include cardiovascular disease, hypoglycaemia and hyperglycaemia, pain, polypharmacy, frailty, functional decline and depression. A risk assessment for falls can be helpful for developing preventive strategies that are relevant to the individual.
- Decide blood glucose, HbA<sub>1c</sub>, lipid and other targets based on an individual risk-benefit perspective.
- Maintain pharmacovigilance. A 'thoughtful polypharmacy' approach is required when managing medications in older people with diabetes.
- Identify pain early and treat appropriately. Nonpharmacological options should be used when possible.
- Undertake older age-specific assessments in the diabetes annual cycle of care.
- Check mental health, cognition and wellbeing.
- Consider general healthcare needs. The diabetes annual cycle of care and 75-year health check represent ideal opportunities to assess general health.
- Provide relevant supporting information and education for family carers. These 'hidden/invisible patients' are at risk of ill-health themselves – it is important to ensure that they have a care plan, which could include respite care.
- Document care plans and review these regularly.

### Consider general healthcare needs

The diabetes annual cycle of care and 75-year health check represent ideal opportunities to assess general health. Eating a healthy balanced diet, participating in regular physical activity, limiting alcohol and stopping smoking remain important strategies for older people with diabetes. The diet should include adequate essential nutrients and protein to prevent anaemia and maintain muscle mass.

Vaccination status should be checked; this includes shingles vaccination, which is funded under the National Immunisation Program for people aged 70 years with catch-up for those aged 71 to 79 years. Oral health checks, hearing assessment and screening for breast, prostate, bowel and other cancers are important aspects of general health care. Sexual health is a core aspect of quality of life and should be asked about, including for individuals in residential aged care facilities.

The potential benefit of medical alert and/or call systems to summon help in emergencies should also be considered.

### Support family carers

A great deal of care is provided by family members, who can be a good source of information about an older person with diabetes. Carers should be provided with relevant supporting information and education. This includes advice about recognising deteriorating health status, myocardial infarction and hypoglycaemia, noting that the standard signs and symptoms might not be present.

Family carers are 'hidden/invisible patients' who are at high risk of ill-health and depression, especially if they are older themselves.<sup>11,12</sup> Caregiver depression

### Plan for health and life transitions

Adverse events are common during care transitions among services and to and from the individual's home. A move to supported care or a residential aged care facility often occurs following a crisis and can lead to significant distress and grief, some of which can be moderated with preplanning. Life transitions such as cessation of driving, need to be discussed, planned for and documented.

Clinicians should try to determine a patient's likelihood of death in the following 12 months. They may find it helpful to ask themselves the surprise question: 'Would I be surprised if this person died in the next six to 12 months?'<sup>29</sup> Palliative and end-of-life care need to be discussed, planned for, and documented. Advance care plans and related documents should be checked at intervals, such as when there are changes in health status or treatment (especially medications) and after admission to hospital or a residential aged care facility. Personal values and preferences can, and do, change over time.

### Conclusion

Managing an older person with diabetes is challenging but also fulfilling, offering GPs an opportunity to practise holistic personalised care. Some practical strategies are summarised in Box 2. The key is to think 'person', not 'diabetes', and to plan proactively for likely care and life transitions.

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### References

A list of references is included in the website version of this article ([www.medicinetoday.com.au](http://www.medicinetoday.com.au)).

COMPETING INTERESTS: None.

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### References

1. Australian Bureau of Statistics. 4364.0.55.001 – National health survey: first results, 2014-15. Canberra: ABS, 2016. Available online at: <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/4364.0.55.001~2014-15~Main%20Features~Diabetes%20mellitus~12> (accessed March 2017).
2. Sinclair AJ, Gadsby R, Penfold S, Croxson SC, Bayer AJ. Prevalence of diabetes in care home residents. *Diabetes Care* 2001; 24: 1066-1068.
3. Australian Institute of Health and Welfare. Diabetes: Australian facts 2008. Diabetes series no. 8. Cat. no. CVD 40. Canberra: AIHW; 2008. Available online at: <http://www.aihw.gov.au/publication-detail/?id=6442468075> (accessed March 2017).
4. Australian Institute of Health and Welfare. Older Australia at a glance. Canberra: AIHW, 2016. Available online at: <http://www.aihw.gov.au/ageing/older-australia-at-a-glance> (accessed March 2017).
5. Dhaliwal M, Weinstock R. Management of type 1 diabetes in older adults. *Diabetes Spectr* 2014; 27: 9-20.
6. Munshi MN, Segal AR, Suhl E, et al. Assessment of barriers to improve diabetes management in older adults: a randomized controlled study. *Diabetes Care* 2013; 36: 343-349.
7. Bouaci L, Southern WN, Zonszein J. Hypoglycaemia-associated mortality is not drug related but linked to comorbidities. *Am J Med* 2011; 124: 1028-1035.
8. McArdle A, Jackson MJ. Reactive oxygen species generation and skeletal muscle wasting – implications for sarcopenia. In: Lynch GS (ed). *Sarcopenia – age-related muscle wasting and weakness: mechanisms and treatments*. Springer Science, 2011: 317.
9. Thomas K, et al. Prognostic Indicator Guidance (PIG). The national gold standards framework centre in end of life care CIC. 4th ed. 2011. Available online at: <http://www.goldstandardsframework.org.uk/cd-content/uploads/files/General%20Files/Prognostic%20Indicator%20Guidance%20October%202011.pdf> (accessed March 2017).
10. Dunning T, Savage S, Duggan N. The McKellar guidelines for managing older people with diabetes in residential and other care settings. Available at: [http://www.adma.org.au/clearinghouse/doc\\_details/133-the-mckellar-guidelines-for-managing-older-people-with-diabetes-in-residential-and-other-care-settings\\_9dec2013.html](http://www.adma.org.au/clearinghouse/doc_details/133-the-mckellar-guidelines-for-managing-older-people-with-diabetes-in-residential-and-other-care-settings_9dec2013.html) (accessed March 2017).
11. Carey IM, Shah SM, DeWilde S, Harris T, Victor CR, Cook DG. Increased risk of acute cardiovascular events after partner bereavement: a matched cohort study. *JAMA Intern Med* 2014; 174: 598-605.
12. Litzelman K, Kent EE, Mollica M, Rowland JH. How does carer well-being relate to perceived quality of care in patients with cancer? Exploring associations and pathways. *J Clin Oncol* 2016; 34: 3554-3561.