POSITION STATEMENT

DiABETES UK
CARE. CONNECT. CAMPAIGN.

Title	Date
Preventing kidney failure in people with diabetes	May 2013

Key points

- Established renal failure (ERF, also known as end-stage renal disease, ESRD) represents the most severe level of chronic kidney disease (CKD). It is strongly associated with premature death and reduced quality of life, and is treated with renal replacement therapy (RRT) or supportive (conservative) care.
- Diabetes is the most common cause of ERF requiring RRT [1]. People with diabetes are almost one and a half times more likely to need RRT than peers in the general population [2]. Data from the National Diabetes Audit indicate that the proportion of people with diabetes requiring RRT increased between 2003/4 and 2008/9 [9].
- RRT is strongly associated with reduced survival: compared to the general population the risk of death on RRT is increased 25-fold at age 30-34, coming down with age to 3-fold at 85+ [1]
- People with diabetes have reduced survival on RRT compared to people without diabetes: the median time on RRT is 3.4 years in those with diabetes as compared with 6.5 years in those without [1]
- After adjustment for age, sex, body mass index and type of diabetes, people with diabetes from South Asian and Black ethnic groups are over twice as likely to receive renal replacement therapy than those from White ethnic groups [2]
- Diabetes substantially increases the risk of developing moderate to severe CKD (Stages 3b, 4, 5). The risks are eight times higher in women and twelve times higher in men compared to those without diabetes [3]
- CKD is a major independent risk factor for cardiovascular disease, and a risk multiplier in people with diabetes. All stages of CKD carry an increased risk of hospitalisation, morbidity and all-cause and cardiovascular mortality [4].
- Impaired kidney function is also associated with poorer psychosocial functioning, anxiety, depression, and reduced health-related quality of life[5]
- If recognised early kidney disease in diabetes can be effectively slowed down [4]
- There is evidence that providing a co-ordinated approach involving early screening and prompt referral to specialist teams when necessary, using medications with proven effectiveness and increasing patient awareness can reduce the burden of diabetes with kidney disease [4] However urine testing for albumin remains the least frequently completed care process in diabetes [6]

Background

Only half of people diagnosed with diabetes receive the recommended care, with less than 1 in 5 achieving the recommended treatment targets. The impact of this results in preventable deaths (22,200 excess deaths each year) and devastating complications such as kidney disease [2] plus a huge cost and quality of life burden.

Kidney disease in diabetes is common

Chronic kidney disease (CKD) is a very common long-term complication of diabetes. CKD is categorised into one of five stages according to the estimated glomerular filtration rate (eGFR) and albumin: creatinine ratio (ACR). An estimated 40% of people with both Type 1 and Type 2 diabetes will develop CKD (Stages 1 to 5) during their lifetime [7].

Estimates of the prevalence of CKD Stage 3-5 in people with diabetes in the UK range from 18 to 30% [4]. In the UKPDS study microalbuminuria and overt proteinuria were seen in 25 and 5% respectively at 10 years [8].

Robust epidemiological data indicate that all stages of CKD are associated with cardiovascular disease and premature mortality. The most severe stage is Established Renal Failure (ERF), which is treated with Renal Replacement Therapy (RRT) or conservative management. Diabetes is the commonest cause of ERF requiring RRT [1]. The prevalence of RRT has increased in each of the last five NDA reporting periods. In 2008/9 the proportion of people with diabetes requiring RRT was 1.3% in Type 1 and 0.5% in Type 2, an increase from 0.8% and 0.3% respectively when compared to 2003/4 [6,9]. Around 9800 people with diabetes required dialysis or transplantation in England and Wales in 2010, against an expected number of 4000. This means that people with diabetes are 144% more likely to need RRT compared to their peers [2]. It is estimated that people living with diabetes are up to 12 times more likely to develop advanced kidney disease [4].

Kidney disease in diabetes is harmful

Reduced eGFR and albuminuria are each major independent risk factors for both cardiovascular events and death in people with diabetes [10]. People with diabetes who are treated with RRT are 2.5 times more likely to die during the following year than those without end stage kidney disease (if you have ESKD and don't get RRT then you die quickly) [2]. Mortality in people with diabetes receiving dialysis after one year is 17% compared to 11% in all patients receiving dialysis [10]

Kidney disease in diabetes is associated with ethnicity and social deprivation

People in the fifth most deprived areas (England and Wales) have a 50% greater likelihood of needing RRT. There is a higher independent risk of RRT in the Black and South Asian ethnic groups compared to White ethnic groups [2]

Kidney disease in diabetes has a major impact upon quality of life
Kidney disease has a huge impact on the lives of people living with diabetes. This complication causes low self esteem, a reduced quality of life and depression, which itself is associated with an increased risk of mortality [11]. Life on dialysis can affect people's social lives and relationships and can impact on peoples' ability to work.

Kidney disease in diabetes is expensive
The NHS spending on diabetes was almost £10 billion in 2011, or £1 million per hour, which is 10% of the NHS budget. 80% of NHS spending on diabetes goes into managing complications. The NHS in England spent an estimated £1.45 billion on CKD in 2009–10, equivalent to £1 in every £77 of NHS expenditure [12]. Costs are expected to rise as prevalence of Type 2 diabetes increases.

Kidney disease in diabetes can be prevented and its progression slowed
There is high quality scientific evidence demonstrating that control of blood glucose and of blood pressure reduces the development and progression of kidney disease in diabetes. The DCCT trial found that intensive control of blood glucose reduced the risk of kidney disease by 50%. Importantly these benefits persisted long after the study period ended. There is a wealth of data in Type 1 and Type 2 diabetes that inhibition of the renin-angiotensin system reduces the progression of kidney disease in diabetes and the development of ERF. Treatment of diabetic nephropathy reduces cardiovascular complications as well as kidney failure.

In view of the increased cardiovascular risk of individuals with any CKD, other cardiovascular risk factors should also be addressed such as support for smoking, check for the use of statins and aspirin.

Early detection using microalbuminuria screening and the institution of proven cost-effective therapies will improve kidney outcomes in diabetes. Raising awareness amongst both people with diabetes and healthcare professionals in primary care is essential. People with more advanced disease should be referred to renal services in a timely fashion for RRT preparation. There is good evidence that individuals referred early to specialist nephrology services have a much better outcome than those whom referral is late and where RRT is commenced rapidly.

Local guidelines vary, but best practice would be to refer those whom transplantation is an option when their eGFR approaches 45ml/min/1.73m2. Those where other modalities of RRT are appropriate should be referred, when the eGFR approaches 30. A referral should be made earlier if there is any doubt about the diagnosis or if there are management difficulties.

A joint "diabetes-renal" specific clinic with multidisciplinary team involvement may improve outcome (and slow the fall in eGFR).

Clinical services should consider focussing approaches on improvement in high risk groups.

Current situation and targets for improvement

Despite the potential of developing such a devastating complication, almost half of people surveyed said that they did not realise that having diabetes puts them at increased risk of developing kidney complications [Ipsos Mori 2012]

Guidance from NICE sets out best practice recommendations for prevention and management of kidney problems for people with diabetes [13, 14, 15, 16, 17]. The Healthcare Quality Improvement Partnership is commissioning a National Audit and Quality Improvement Programme for CKD in Primary Care, which will function synergistically with the National Diabetes Audit to raise standards for patients with diabetes and kidney disease treated in general practice. CKD has been designated a Clinical Priority area for 2013-2016 by the Royal College of General Practitioners.

Together these initiatives represent an unprecedented opportunity for improvement.
In 2010 -2011 nearly half (41%) of people with Type 1 and a quarter (23%) of people with Type 2 did not receive a kidney risk assessment [6]. Urine testing for albumin remains the least frequently completed care process within the NDA. There is also major geographical variation in terms of numbers of people who are receiving annual checks [6]. Significant opportunities to prevent and delay kidney disease are therefore being missed. Raising awareness of kidney disease, in both patients and healthcare professionals, is key. We must address the current situation where patients are not always informed of a diagnosis of kidney disease (Health Survey of England). There is a need for improved education and training for staff working in primary care. A holistic approach to management, including provision of information and education, encouragement and support of self-management and lifestyle advice should be promoted. Structured management with annual reviews for early identification of problems and integrated care with timely referrals to kidney specialists are crucial.

The NHS must deliver best practice guidance and person-centred care planning as set out in the Year of Care programme. Standards of care should be monitored nationally, and the impact on rates of kidney failure should be measured. Sharing of best practice must be encouraged. All staff should be encouraged to participate in audits of diabetes and its complications.

Diabetes UK calls to action

Everyone with diabetes should have screening for kidney disease annually which involves a blood test for serum creatinine and calculation of eGFR, and urine test for albumin excretion (microalbuminuria or proteinuria.) Those who screen negative should have access to on-going high quality care aimed at prevention of kidney disease, whilst those

who screen positive should be offered appropriate investigation and management to delay progression.

People with diabetes should be involved more in their own care, and supported to make lifestyle changes and optimise their blood pressure and glucose levels. People with diabetes need to be aware of what care they should receive from the health service, so that they can make sure they get the appropriate checks. Patient-facing educational messages should emphasise that kidney problems in diabetes are common, harmful and treatable.

Commissioners of health services must deliver an integrated approach to diabetes and kidney disease providing the right treatment at the right time and in the right place for all people with diabetes.

Healthcare professionals should understand the stages of CKD and the links between diabetes, CKD and cardiovascular disease. They should discuss the risks of kidney disease with people with diabetes which includes how to protect kidney health and as required, treatment of kidney problems. They should promote and facilitate self-supported care, provide annual kidney assessments (urine ACR/ blood eGFR), use proven and cost-effective treatment, and refer quickly to specialists when necessary.

There should be a national diabetes implementation plan. All diabetes care should be monitored as part of a national framework, to include kidney care as well as general care. In England, NHS England and Clinical Commissioning Groups should do this. Future revisions to the Quality and Outcomes framework should examine the development of overarching quality indicators relevant to patients with diabetes, kidney disease and cardiovascular disease.

Conclusion

Diabetes UK aims to improve diabetes and kidney care for people with diabetes and reduce the number of people requiring renal replacement therapy. Raising awareness of kidney complications in diabetes and of the importance of a kidney risk assessment at the annual review is crucial, both amongst people with diabetes and in all those who are involved in their care. It is also important to make people aware of the services that should be provided and ensure that these are in place in all localities.

Further information

Thanks to the Kidney Alliance for support with this statement; please direct further queries to Kidney Alliance members the Renal Association on www.renal.org or president@renal.org and the British Renal Society on www.britishrenal.org or brs@britishrenal.org'

- Cardiovascular Disease Outcomes Strategy (2013)
- Best practice for commissioning diabetes services - an integrated care framework (2013)

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