

# Renal disease

## Subject

Instructions for screening clients for renal function impairment in the context of the Canadian immigration medical examination (IME).

## Goal/Objective

These instructions are provided to ensure that panel physicians (PPs) follow a consistent and appropriate process for the following:

- identification of clients at risk of renal function impairment;
- screening for renal function impairment in order to provide all the information that will allow the medical officer to assess the potential medical service requirements needed for the client; and
- completion and grading of an IME for a client with renal function impairment.

## Instructions

### *Rationale*

Chronic kidney disease (CKD) is a worldwide public health problem. There is an increasing incidence and prevalence of patients with kidney failure requiring replacement therapy, with poor outcomes and high cost. There is an even higher prevalence of patients in earlier stages of CKD, with adverse outcomes such as kidney failure, cardiovascular disease, and premature death. The incidence of diabetes and diabetic nephropathy is also increasing worldwide. End-stage renal disease develops in 50% of type-1 diabetes patients with overt nephropathy within 10 years and in more than 75% by 20 years in the absence of treatment.

### *Screening and Testing*

It is particularly important to screen and identify clients with renal function impairment as this condition with its requirement for specialized care and treatment (ultimately dialysis or kidney transplant and immunosuppressive therapy for life) continues to represent a significant burden and excessive demand on Canadian health services. The Canadian Institute for Health Information (CIHI) reports that the number of Canadians living with kidney failure tripled over 20 years.

During the medical history-taking and physical examination, PPs should be vigilant for the presence of renal function impairment. If an interpreter is used, the panel physician must select and ensure that the interpreter is unbiased and has no connection to the client. Family members or friends cannot act as an interpreter for a client. The use of a professional interpreter is at the client's expense.

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Identification of clients at risk for renal impairment is based upon a directed medical and surgical history including history of **co-morbidities** (e.g. **diabetes, hypertension and cardiovascular disease [CVD]**) and dietary, social, demographic and cultural factors, a review of symptoms, and physical examination. **Populations at increased risk** include those with the following:

- **diabetes;**
- **hypertension with or without CVD;**
- **a family history of kidney disease; or**
- **specific high-risk ethnic groups: Canadian First Nations, and persons of African and Asian descent.**

Note: Age > 60years is associated with an increased risk of impaired kidney function, but evidence is insufficient to recommend screening solely on the basis of age.

During the physical examination, PPs will pay special attention to identify potential end-organ damage associated with co-morbid conditions leading to renal impairment:

- funduscopy is necessary to assess **retinopathy**;
- check for symptoms or findings such as peripheral anesthetic **neuropathy** or pain, autonomic neuropathy e.g. erectile dysfunction, gastrointestinal disturbance, orthostatic hypotension. Include screening via monofilament during foot exam;
- chest auscultation/radiography is necessary to assess cardiomegaly and **cardiopathy**;
- to assess **nephropathy**, special attention should be brought during the IME to screen for diabetes as well as the blood pressure measure and urinalysis result. (Refer to IMEIs: diabetes, hypertension and urinalysis).
  - **Hypertension** is defined as a repeated blood pressure (repeated 3 times) measured in the doctor's office:
    - $\geq 140$ mmHg systolic pressure; or
    - $\geq 90$  mm Hg diastolic pressure
  - **Urinalysis**: The earliest clinical evidence of diabetic nephropathy is microalbuminuria. Progression from microalbuminuria to overt nephropathy occurs in 20-40% of patients within a 10-year period with approximately 20% of these patients progressing to end-stage renal disease.

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Once a renal impairment is identified during the IME, the following information will assist the Regional Medical Office in its assessment of the IME:

- diagnosis and prognosis;
- duration and progression of symptoms;
- level of functioning;
- details of past investigations and treatments (medications, referrals, hospitalizations, surgery, etc);
- any specialist reports available from previous consultations;
- current medications used to treat the disease; and
- anticipated treatment needed (surgery, dialysis, etc).

### *Additional Investigation*

Additional testing is required to rule out renal impairment in **clients identified with co-morbidity conditions and risk factors THAT ALSO PRESENT physical signs of end-organ damage**. In those cases, the following additional investigation is required:

- **serum creatinine test** (refer to IMEI serum creatinine).
- if serum creatinine is abnormal, then a 24 hour urine collection is warranted with measure of **creatinine clearance rate (eGFR) and/or test of microalbumin/creatinine ratio**.
- clients with abnormal results should also be referred for additional evaluation by a nephrologist or internal medicine specialist.

### *Reporting*

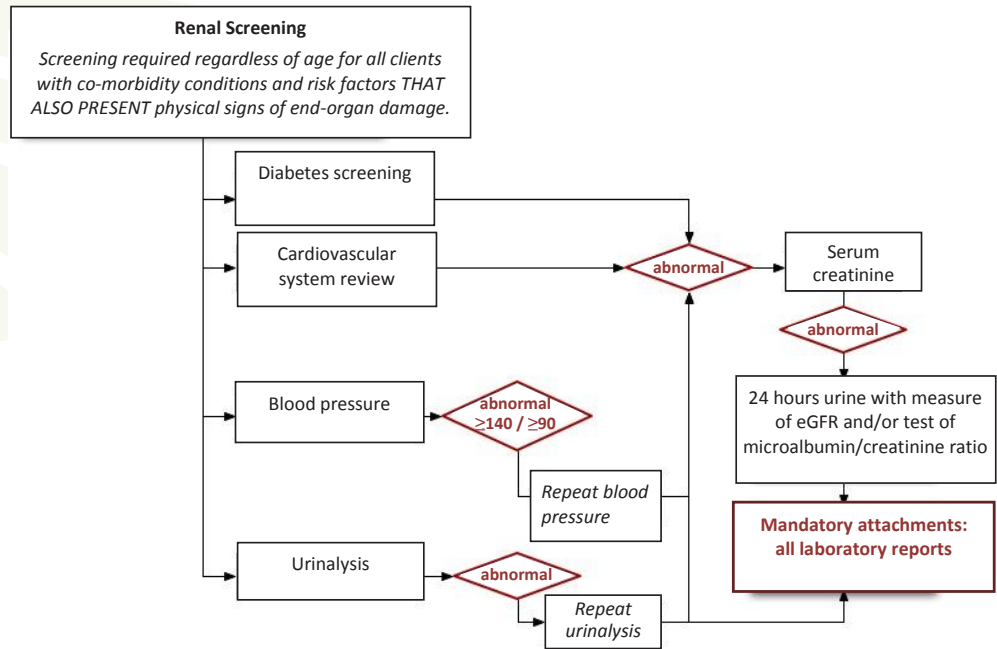
- All additional lab result reports must be attached to the IME report.
- Specialist reports from previous specialized consultations should also be attached.

### **Grading**

All IMEs for client with abnormal renal function must be graded B.

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## Algorithm



## References

Detection, monitoring and referral of chronic kidney disease. 2007. The Canadian Society of Nephrology. <https://www.csnsn.ca/en/education/educational-resources>

Guidelines for the management of chronic kidney disease. 2008. The Canadian Society of Nephrology <http://www.cmaj.ca/cgi/content/full/179/11/1154/DC1>

## HB Approval and Authority

Director General, NHQ, Health Branch, CIC

## Implementation Date

2012/11/01

## Revision Date(s)

2013/11/01