



Produced by Dr. David Voss, Specialist Renal Physician  
in the interest of public health education.

[www.kidney.net.nz](http://www.kidney.net.nz)

# **Ultrasound-Guided Percutaneous Renal Biopsy Information Sheet**

## **What is a percutaneous renal biopsy?**

A percutaneous (through the skin) renal (kidney) biopsy is a procedure where, under local anaesthetic (LA), a needle is passed through the skin into the kidney to obtain a piece of kidney tissue.

The piece of kidney tissue can then be examined under the microscope to ascertain what is causing the kidney problem. The kidney is identified with ultrasound equipment in the radiology department, and the ultrasound scan used to guide the needle into the kidney for the biopsy.

## **Why is the biopsy necessary?**

Investigation of kidney disease includes a combination of history, examination, and both radiology and laboratory tests. Sometimes these tests do not complete the picture of the condition affecting the kidneys. The kidney biopsy is required in order to both guide in the treatment of the condition, and give information about the prognosis (outlook, or what the future may bring).

The main reasons for a biopsy are: abnormal kidney function (elevated plasma creatinine), and / or proteinuria (protein in the urine), and / or haematuria (blood in the urine).

## **How long does the biopsy take?**

The actual procedure takes about 20 to 45 minutes. Often the biopsy can be performed as a day case. This means no overnight stay.

After the biopsy you will need to remain for observation for several hours.

Complications from the biopsy usually occur within the first few hours of this observation period.

## **What are the complications of a kidney biopsy?**

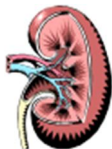
The main complications from the biopsy are:

1. Bleeding
2. Pain
3. Urine infection
4. Fistula

*This kidney biopsy information sheet is produced as information for patients under Dr Voss' care, who require a kidney biopsy. The information herein is written expressly for consumption within the practice of medicine and nephrology within New Zealand. Whilst much of its content may be applicable to the practice of nephrology in other countries or situations, it should be read with this limitation in mind.*

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## 1. Bleeding

This is the **most important and most common problem**. Most patients have some bleeding in the urine. This is detectable by a urine dipstick or laboratory test. The blood usually is not (but can occasionally be) seen by the naked eye. This bleeding settles on its own within a few days, and is of no consequence. Often the biopsy is being performed because of bleeding in the urine. This post-biopsy bleeding does not interfere with other tests, or interpretation of the biopsy.

Approximately 2% (2 in every hundred) patients undergoing a kidney biopsy, there may be a lot of bleeding, and may require a blood transfusion. If you would prefer not to have a blood transfusion – you still may be able to undergo the kidney biopsy. Rarely surgery is required to stop the bleeding. This occurs in approximately 0.1% (1 in every thousand) patients undergoing a kidney biopsy. Even more rarely the biopsy kidney needs urgent surgery to either have part of it removed, the bleeding point sown over or the whole kidney removed because of severe and uncontrolled bleeding.

Good control of blood pressure is required before the biopsy to minimise bleeding. Generally if the blood pressure is above 160/100mmHg control of the blood pressure will have to be attained before a non-urgent biopsy can be safely proceeded with. Reduced kidney function and uncontrolled high blood pressure increase the risk of bleeding implications.

You **must stop any anti-inflammatory medications** NSAIDs (e.g. Voltaren, Naprosyn, Brufen, Nurofen and similar medications or medications that contain these agents: Diclofenac, Naproxen, Ibuprofen) **and stop any blood thinning medications** (e.g. aspirin, warfarin, coumarin, heparin, Clexane, enoxaparin, dabigatran (Pradaxa)) to minimise the risk of bleeding. A blood test is performed before the biopsy to look for any tendency towards bleeding you may have. Any abnormality is corrected before the biopsy, or the biopsy may be postponed.

## 2. Pain

Pain affects most patients. There is often a mild ache for one to two days after the biopsy. This pain feels like a bruise. Occasionally there is more severe pain for up to twelve (12) hours following the biopsy. Again the pain resolves without any specific treatment, or with **oral paracetamol tablets**.

Severe prolonged pain usually indicates troublesome bleeding, and you may need to remain in hospital overnight for further observation.

Anti-inflammatories (NSAIDs) should not be taken as they may provoke the bleeding.

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### 3. Urine infection

The biopsy is performed under sterile conditions, so urinary infection from the skin is rare. A urine culture is usually as one of your tests prior to the biopsy to ensure there is not infection in the urine.

A urine infection will need treating before the biopsy can proceed.

### 4. Fistula

The biopsy is cutting through kidney tissue with blood vessels within it. Sometimes the biopsy needle cuts through two blood vessels, and when the cut heals the artery and vein grow together, creating a short-circuit between these two vessels (fistula). This is almost never of any importance clinically.

### When may I return to work?

Most retired people, sedentary people, home and office workers usually can return to normal activities after two (2) days' rest. No heavy lifting or moving of heavy items (e.g. furniture, baskets of wet-washing, or heavy bags of grocery items) for two days after the biopsy – 3 days including if you count the day of the biopsy.

Physically active people (e.g. manual labouring occupations, long-haul drivers, and sports people) should not return to their normal activities for three to four days. This is to minimise the risk of bleeding late after the biopsy.

**Severe pain in the area of the biopsy is the usual indication of such a complication. Call the ambulance immediately (dial the emergency number 111).**

David Voss

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