

Renal Biopsy

What is a renal biopsy?

Renal or kidney biopsy is a medical procedure in which a very small sample piece of tissue is removed from the kidney for microscopic examination using a biopsy needle. The thickness of the piece removed is approximately that of the thin "bee hoon". Usually two pieces, each slightly less than 1 cm in length, are taken.

Why would I need a renal biopsy?

There are several reasons why renal biopsy may be required. One or more of the following reasons may apply to you:

- To identify a specific disease process in the kidney. This will then allow us to use the most appropriate medication. It also gives the doctors a better idea of what your response to treatment will be and assist in planning for an alternative course of action should you not respond to firstline medication.
- To evaluate the extent of damage that has occurred in the kidney.

The doctor would recommend for a renal biopsy only after a series of blood and urine tests done with abnormal results, or ultrasound and CT scans have failed to diagnose a kidney problem or define its severity.

The biopsy may be performed on your kidneys or a transplanted kidney.

Do I have to stay in the hospital?

Yes. You will be required to stay in the hospital overnight after the procedure. You will be able to go home the next day if there are no complications.

What preparation is needed before biopsy?

Before a biopsy, the doctor will explain why the procedure is required, how it is performed and the risks involved. Much of this discussion is usually held several days in advance unless the kidney disease is a sudden one. You will need to sign a consent form before the procedure is carried out confirming that you have understood and agreed for the procedure to be performed.

Within a week of the planned biopsy, you will be asked to undergo some tests to assess your clotting capability. This is important as the kidney has a lot of blood vessels and you must be able to clot normally to minimize complications from bleeding.

This procedure is usually not performed on patients in advanced stage of pregnancy.

Other precautionary measures taken to prevent complications especially post-biopsy bleeding include:

- 1) Your blood pressure must be controlled to at least 140/90 before the biopsy. This is important because uncontrolled blood pressure may increase the chance of bleeding.
- 2) Medicines that thin the blood, e.g. aspirin, warfarin has to be stopped at least two weeks prior to the biopsy to reduce chances of post-biopsy bleeding. You must therefore inform the doctor of all medications that you are taking regularly as you may not be aware if any of the drugs can affect the clotting capability of blood.

You will be given a week's medical leave to recuperate at home after the biopsy. This is to reduce the intensity of daily activities so as to prevent high blood flow through the kidneys. Exercise should therefore be avoided during this period. So before admission, please plan to be away from work for at least a week.

How is the renal biopsy performed?

You will have to empty your bladder before the procedure to reduce any discomfort as this procedure may take at least 1 hour to complete. To help you relax, the doctor may prescribe sedatives, as you will need to remain in the same position throughout the procedure.

The doctor will ask you to lie face down on a bed or a couch with a pillow place under your abdomen. The doctor will use an ultrasound machine to locate the exact position of your kidney and mark where he is going to introduce the biopsy needle. The skin at and around that area is cleansed using an antiseptic solution. A local anesthetic is then injected to numb the area where the needle will be inserted.

When the skin and tissues are completely numb, a thin needle is passed through the skin into the kidney. Inside the needle is a sharp cutting edge tip that will slice and remove a small piece of the kidney tissue.

Because the kidney moves with breathing, you will be asked to hold your breath when the needle is advanced into the kidney. Most kidney departments now use a "gun" type of system where the cutting is automated. You will hear an obvious snapping sound when the "gun" is activated and the biopsy is taken. So as not to be alarmed by this sudden noise, you should familiarise yourself with the noise before the actual biopsy procedure.

After the needle is removed, pressure is applied onto the biopsy site for several minutes to stop bleeding. A pressure bandage is then applied. You will be asked to turn around and lie on your back. Your body weight will aid in applying pressure.

The tissue samples are sent to the laboratory for examination.

The entire procedure may last about 30 minutes to an hour but much of the time is spent in locating a good spot for taking the biopsy.

Is renal biopsy a painful procedure?

The amount of pain during and after the procedure depends on each individual. A local anesthetic is used during the procedure to minimise discomfort.

What are the risks of renal biopsy?

Complications after renal biopsies are rare. A potential complication from this procedure is bleeding.

Many patients have a small amount of bleeding into the space around the kidney but few are significant enough to require a blood transfusion. Almost all patients have some bleeding into the urine that can be seen and is usually temporary.

What happens after the procedure?

The ward nurse will monitor your blood pressure, pulse,

respiration and temperature immediately after the biopsy and at regular intervals. You will be asked to lie on your back and remain in the position for at least 6 hours. This position will naturally apply pressure at the biopsy site and reduce the risk of bleeding.

You may also experience slight soreness at the area because of bleeding into the muscle where the needle was introduced. You can take some painkillers but many patients do not need them. Should the pain persist or gets worse, you must inform the nurse or doctor as this may mean significant bleeding from the kidney.

Discharge from hospital

After discharge, you must have plenty of rest, and stay at home for at least a week.

You must avoid lifting heavy objects, no vigorous exercise and do not involve in contact sports for at least one or two weeks.

When can I get the results?

Depending on the urgency, complexity of the problem, and tests needed on the specimen, the results may be ready the following day or as long as a few weeks. Your physician will decide when he will next see you to decide on the next course of action.

Note: The information is only a general guide. Individual circumstance and the way test is performed may vary between hospitals and doctors. Always follow the instructions given by the hospital or doctors relating to any test or procedure.



You may visit these websites for more information:


<http://www.kdf.org.sg/health.aspx>

<http://www.davita.com>

<http://www.uptodate.com/patients/index.html>


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RENAL BIOPSY



Renal or kidney biopsy is a medical procedure in which a very small sample piece of tissue is removed from the kidney for microscopic examination using a biopsy needle.

肾脏活组织检查



肾脏活组织检查是一项医学程序，利用活组织检查专用的针从肾脏取出一小部分的活组织进行显微镜检验。

肾脏活组织检查

什么是肾脏活组织检查？

这是一项医学程序，利用活组织检查专用的针从肾脏取出一小部分的活组织进行显微镜检验。通常会取出两块活组织，每块稍微少过1厘米长，厚度大约与细条‘米粉’相似。

为什么需要进行肾脏活组织检查？

这可能有几种原因，而您可能因一个或多个以下的原因而需要进行肾脏活组织检查：

- 辨别肾脏的具体病因。这将有助于医生使用最适当的药物，并更好的判断您对药物治疗的反应。同时，如果您对第一线药物没有反应，医生也能协助策划替代的治疗方法。
- 评估肾脏损坏的程度。

一般上，病人会先通过一系列的血液、尿液检验。如果报告结果不正常，或是超声波扫描与电脑断层扫描都不能诊断肾病问题或损坏程度，医生就会推荐病人进行肾脏活组织检查。

这项活检可以在自身的肾脏或移植的肾脏进行。

需要住院吗？

需要。当肾脏活组织检查程序结束后，您必须留医观察。如果没有并发症，隔天就能够出院。

肾脏活组织检查前，需要什么准备？

在进行活检之前，医生会向您解释活检的需要、过程和有关的风险。医生一般会事先与您讨论，除非您的肾病是突发性的。您必须在活检前签署同意书，以证实您了解及同意进行这项活检。

确定进行活检的一星期内，您必须进行一系列的血液检验来评估您的血液凝结功能。这些检验是非常重要的。由于肾脏有很多血管，您必须有正常的血液凝结功能以减低出血过多而引起的并发症。

这项活检通常不会为接近生产期的怀孕女性进行。

其他有助于避免活检后流血引起并发症的预防措施包括了：

- 1) 在进行活检前，您的血压必须控制在至少140/90或以下。这是非常重要，因为血压失控可能导致流血。
- 2) 降低血液浓度的药物例如Aspirin, Warfarin, 必须在活检前的两个星期停止服用，以减低活检后的流血。您必须通知医生有关您所有定时服用的药物，因为您可能不清楚哪些药物会影响血液凝结的功能性。

进行活检后，您将获得一个星期的病假在家修养。这是为了减少强烈的日常活动以避免肾脏内的高度血液流动。这期间，您必须避免运动。因此在入院前，请计划离开工作岗位至少一个星期。

肾脏活组织检查是如何进行？

这项活检程序需要至少一个小时来完成。为了减低您的不适，您应该在活检之前先上厕所将膀胱排空。由于在整个过程中，您必须保持同样的姿势，医生可能会开镇静剂协助您放松。

医生会让您躺在床上或沙发，脸部朝下，枕头置于腹部。医生会以超声波仪器来测定肾脏的准确位置并做记号。肾脏位置的周围皮肤都进行消毒清洗。接着，注射局部麻醉药来麻醉插针的部位。

当皮肤与组织都完全麻醉后，一支细长的针会插入皮肤直达肾脏。针里有一个尖锐的切割角头，将能够切割并取出小部分的肾脏活组织。

由于肾脏会跟着您的呼吸而移动，所以，当针插入肾脏时，医生会叫您暂时屏住呼吸。目前，大多数的肾脏部门都采用自动切除枪式的系统来取出活组织。所以，当枪开动并切除活组织时，您会听到明显的切除声。在这程序之前，您应该对这声音有所熟悉以避免惊慌。

取出针后，医生会在插针的部位施压几分钟来停止流血，再贴上施压胶布。然后，您可以翻身，脸部朝上，而这个姿势借您的体重施压帮助停止流血。

肾脏活组织样本将被送去化验室进行检验。

虽然，整个过程需要半个小时到一个小时，但是大部分的时间是花在确定取出活组织的位置。

肾脏活组织检查的过程会痛吗？

这将会因个人的体质而感觉不一样痛的程度。医生会使用局部麻醉药以减少检查过程中而感到的不适。

肾脏活组织检查有哪些风险？

肾脏活组织检查后的并发症发生可能性很低。最严重的风险是流血。许多病人的肾脏周围都会有轻微流血的现象，但极少数需要输血。几乎所有病人在24小时之内，都会有暂时性的血尿症状。如果血尿持续，您必须通知医生。

肾脏活组织检查后会进行什么程序？

病房护士会立刻并定时为您测量血压、脉搏、呼吸及体

温。您必须躺在床上（背部朝下）至少6小时。这个姿势会在活检部位自然施压，有助于减低流血的风险。

在针插入的部位，您可能会因肌肉流血而感觉到轻微疼痛。您可以服用一些止痛药，但大多数病人都不需要。如果疼痛持续或加剧，您必须通知护士或医生，这可能是肾脏内大量流血的状况。

出院后

出院后，您必须充分休息，并留在家里至少一个星期。至少一个到两个星期内，您必须避免搬动重物、剧烈运动及与身体有接触的运动。

我几时能够拿到报告？

这要根据报告需要的紧急性、问题的复杂性及样本检验的需要来决定。报告可能会在隔天或几个星期内就能拿到。您的医生会决定您几时来复诊并决定下一步的疗程计划。

备注：以上只属一般信息。个别医院与医生在处理个人情况与检验方式时可能有所不同。有关任何检验或程序，必须根据医院或医生所给予的指示。



欲知详情，可参阅以下的网址：

<http://www.kdf.org.sg/health.aspx>

<http://www.davita.com>

<http://www.uptodate.com/patients/index.html>