

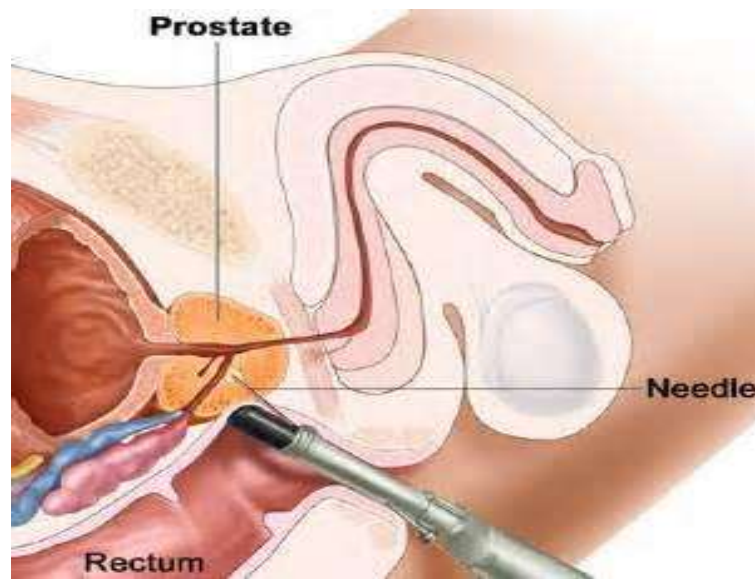


## **Transrectal ultrasonography and biopsy notes**

### **1. Introduction**

According to the statistics from Department of Health in 2020, prostate cancer is the 6th among of top 10 leading cause of death in men in Taiwan. Early diagnosis and variety of effective treatments could improve the five-year survival rate of prostate cancer up to 75 percent.

Prostate is a gland looks like a chestnut, about 20 grams. It secretes prostate fluid which is a part of semen. Prostate is located below the bladder, surrounded part of the urethra and just separated from rectum by denonvilliers fascia.



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All information above has been reviewed by genitourinary specialists  
Edited and published by the Department of Nursing,  
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### **2. What are the transrectal ultrasonography and prostate biopsy**

It is usually asymptomatic in the early stage of prostate cancer. Currently, the diagnosis of prostate cancer is base on the evaluation of serum prostate specific antigen(PSA) and digital rectal examination of

prostate to find out the high-risk group. In the high-risk group, transrectal ultrasound-guided prostate biopsy is arranged for pathological diagnosis. The transrectal ultrasonography and prostate biopsy are simple and reliable tools. They are using in:

- (1) Pre-operative staging for prostate cancer
- (2) Assessment the effect of radiation therapy or hormone therapy for prostate cancer
- (3) Differential diagnosis of prostate diseases
- (4) Provide information for selection of surgical methods in begin prostate hypertrophy

### 3. Examination procedure

- (1) Prostate, Transrectal needle biopsy
- (2) Prostate, Transperineal needle biopsy
- (3) Prostate, MRI fusion transperineal ultrasound guided prostate biopsy

### 4. What happens during the transrectal ultrasonography and prostate biopsy?

#### **Pre-procedure prepare**

- (1) Sign the consent form
- (2) Take the prophylactic antibiotics by the doctor's order
- (3) Enema for cleaning the rectum in the morning of examination by doctor's order
- (4) If will be using the MRI and ultrasound images to watch where the biopsy needles, you must go to MRI exam before surgery.

#### **In the procedure**

- (1) Under the left lateral decubitus position with knee and hip flexion
- (2) When transrectal ultrasonography performing, the probe is lubricated by jelly and put through anus into rectum about 2-4 cm. The prostate biopsy could perform under ultrasound-guiding if indicated
- (3) The whole procedure is about 30-60minutes

### **Post-procedure care**

(1) Hematuria or blood in stool is noted occasionally after procedure.

It usually disappears within 1-2 weeks.

(2) Keep daily intake 3,000 cc

(3) Avoid sexual intercourse and bath in tub within 2 weeks

(4) Take antibiotics by doctor's order. Don't discontinue drugs without permission to prevent infection

(5) Come back to ER immediately when fever, chills, severe hematuria, difficult urination, or prolong bloody stool

(6) Follow up at out-patient department on schedule

### **5. Conclusion**

The patient undergoes digital rectal examination and blood test for prostate specific antigen (PSA concentration) or prostate health index (PHI) or nuclear magnetic resonance (MRI) in the outpatient clinic. If there is any abnormality, the doctor will arrange for evaluation Ultrasound-guided prostate biopsy to confirm pathological diagnosis and help physicians to make clinical judgment and follow-up treatment.

### **6. References**

Israël, B., Hannink, G., Barentsz, J. O., & van der Leest, M. M. G.

(2022). Implications of the european association of urology recommended risk assessment algorithm for early prostate cancer detection. *European Urology Open Science*, 43, 1–4.

<https://doi.org/10.1016/j.euros.2022.06.006>

Ortner, G., Tzanaki, E., Rai, B. P., Nagele, U., & Tokas, T. (2021).

Transperineal prostate biopsy: The modern gold standard to prostate cancer diagnosis. *Turkish Journal of Urology*, 47(Supp. 1), S19–S26. <https://doi.org/10.5152/tud.2020.20358>.

Let's take the quiz to make sure you understand

1. Early-stage prostate cancer usually has no symptoms.

Yes No Don't know

2. Ultrasound-guided prostate biopsy is a simple and reliable examination that can distinguish different prostate diseases.

Yes No Don't know

3. After ultrasound-guided prostate biopsy, occasional hematuria, blood in the stool, and hematospermia are abnormal, and you must seek medical attention immediately.

Yes No Don't know

4. Ultrasound-guided prostate biopsy methods include transrectal, transperineal prostate ultrasound-guided slices, and magnetic resonance imaging (MRI) fusion ultrasound-guided slices.

Yes No Don't know

5. After ultrasound-guided prostate biopsy, if you find chills, fever, severe hematuria, poor urination, or bloody stools after returning home, you should seek medical attention immediately.

Yes No Don't know