**NAME: BELEMA SUCCESS**

**MATRIC NO: 18/MHS02/054**

**ASSIGNMENT: RENAL PHYSIOLOGY**

**QUESTION: WRITE SHORT NOTE ON MICTURITION**

Micturition (urination) is the process of urine excretion from the urinary bladder. Most of the time, the bladder (detrusor muscle) is used to store urine. At its most basic level, micturition is a simple reflex which is displayed by infants who are not toilet-trained. Micturition reflex is the reflex by which micturition occurs. This reflex is elicited by the stimulation of stretch receptors situated on the wall of urinary bladder and urethra. When about 300 to 400 mL of urine is collected in the bladder, intravesical pressure increases. This stretches the wall of bladder resulting in stimulation of stretch receptors and generation of sensory impulses.

When the volume of urine in the bladder reaches about 250ml, stretch receptors in the bladder walls are stimulated and excite sensory parasympathetic fibres which relay information to the sacral area of the spine. This information is integrated in the spine and relayed to two different sets of neurones. Parasympathetic motor neurones are excited and act to contract the detrusor muscles in the bladder so that bladder pressure increases and the internal sphincter opens. At the same time, somatic motor neurones supplying the external sphincter via the pudendal nerve are inhibited, allowing the external sphincter to open and urine to flow out, assisted by gravity. Children and adults have considerable control over when and where they pass urine. They can also increase or decrease the rate of flow and even stop and start again, so micturition is clearly more than just a simple reflex. This control is learnt in infancy and involves other sensory fibres in the bladder wall. These fibres convey information on the degree of bladder fullness via the spine to the higher centres of the brain, the thalamus and cerebral cortex. This causes us to become aware that we need to pass urine and of the urgency of the situation.

We can increase the rate of urine flow by contraction of the abdominal muscles and by the performance of Valsalva’s manoeuvre (forced expiration against a closed glottis. Contraction of the strong pelvic floor muscles can stop urine in mid-flow. The sound of running water also encourages micturition but some people cannot urinate in the presence of others, no matter how great their need. After micturition, less than 10ml of urine remains in the bladder and the cycle begins again.

**Potential problems associated with micturition**

For normal micturition to occur we need:

- Intact nerve pathways to the urinary tract;

- Normal muscle tone in the detrusors, sphincters and pelvic floor muscles;

- Absence of any obstruction to urine flow in any part of the urinary tract;

- Normal bladder capacity;

- Absence of environmental or psychological factors which may inhibit micturition.