Seizure & Epilepsy Disorders

MOD G

Historically it was thought that people who had seizures were possessed by demon spirits. Today people are being educated that seizures are a neurological disorder of the brain.

A seizure is often described as an abrupt electrical storm or eruption that occurs in the brain. This eruption results in the brain not working as it typically does for a brief period of time. The outward signs or what you sell will depend on where in the brain the seizure activity is occurring. With over 30 different types of seizures, the nature and character of each seizure can vary quite dramatically.

Not all seizures that people have are considered Epilepsy. Epilepsy is a medical diagnosis that is given when there is a likelihood that the person will have additional seizure activity. People will often use the term seizure disorder interchangeably with epilepsy.
What Causes Epilepsy and Seizures?

Though there are numerous known causes for epilepsy, in approximately 50% of the cases the cause cannot be determined. There are many known causes for seizures:

- Some of them occur as early as intrauterine life. For instance, taking certain medications or illicit drugs while pregnant may cause seizure activity in the child. Infection or trauma to the fetus can also result in seizure activity.
- Some causes can occur during the birthing process from a lack of oxygen or trauma to the brain of the infant.
- Serious infection of the brain like meningitis or encephalitis can result in seizure activity.
- Significant head injuries from accidents, gun shot wounds or car accidents.
- Alcohol or drug intoxication.
- Cerebral vascular accidents also known as strokes.
- Poisoning from lead.
- High fevers or quickly rising fevers especially in infants or young children.
- Chemical imbalances that might occur inside a person's blood, like electrolyte imbalances.
- Certain inherited diseases.

What Are The Different Types of Seizures?

- Seizures can be categorized by the area of the brain where the seizure occurs as well as what outward signs are displayed by the person during the seizure. The most common types of seizures fall into 2 main categories, "partial" and "generalized".

- **Partial Seizures**, which include "simple partial" and "complex partial" seizures, are those that arise and occur in a specific place in the brain. What you observe will depend on where in the brain the seizure occurs.

- **Generalized Seizures** affect the entire brain. Two of the most common types of generalized seizures are "generalized tonic-clonic" and the "generalized absence".

Generalized Tonic-Clonic Seizures

One of the most well known seizures is the generalized tonic-clonic seizure or what used to be called a "grand mal" seizure. In this type of seizure, the entire brain is affected. During the

seizure she also wets her pants (it is also possible that people can experience bowel or stool accidents, though not everyone who has a seizure does).

- The person may experience a warning that a seizure is about to begin. This may take the form of a specific effect to the person's hearing, vision, smell, or some other reliable sensation the person knows to associate with the imminent onset of a seizure. This is called an aura. Not all people with this type of seizure experience an aura.
- The sound of a hoarse cry at the start of the seizure
- A loss of consciousness and voluntary muscle control with no memory of the incident.
- A brief period of muscle stiffening followed by rhythmic jerking of the body.
- Changes in normal breathing patters with possible bluish color tot he skin and mucous membrane.
- Urine or bowel movement accidents may occur.
- Confusion and tiredness following the seizure is common.
- The length of the seizure is generally between 1-3 minutes by can be longer.

Care for Tonic-Clonic Seizures

Remaining calm, providing a safe environment and making careful observations are the most important tasks.

- Remain calm. Remember that once the seizure has started there is typically nothing to do to stop it. (In special circumstances, the person may have specific orders from their doctor for medications to stop seizure activity. If this is the case, special training will be given.) The seizure activity almost always ends spontaneously. If you know what to expect and what to do, it will help you to remain calm.
- Assist the person to the floor being sure to protect their head or body from injury. Place something soft under their head, like a pillow or blanket.
- Begin timing the seizure if you have a watch or if there is a clock handy. (This will give an accurate length of the seizure activity. When witnessing a seizure, seconds can seem like minutes.)

<u>Do not</u> put anything in their mouth in an attempt to prevent them from biting their tongue. <u>Do not</u> try to restrain any part of their body during the seizure.

- Loosen any tight clothing around the person's neck and remove eyeglasses.
- Turn the person on their side as soon as possible. (This allows the secretions to drain from their mouth preventing aspiration and also helps to maintain an open airway.)
- Stay with the person until they are fully alert. Don't give them anything to eat or drink until after the seizure has stopped and they are fully alert.
- Check the person for any possible injuries that may have occurred as a result of the seizure activity and provide first aid as necessary.
- If they have experienced a urinary or bowel accident assist them in cleaning up and changing into clean clothes.
- Be aware that the person may experience embarrassment especially if the seizure happens in a public place. Assist the person discretely in a way that preserves their dignity and provides the person with emotional support as needed

Report the seizure immediately to PAS Management.

Status Epilepticus

There are times when generalized tonic-clonic seizure activity can constitute a medical emergency. A medical emergency arises when a person experiences repetitive or continuous generalized tonic-clonic seizures. This condition known as "status epilepticus: is relatively rare, but when it occurs it can be life-threatening due to possible oxygen

deprivation to the brain and requires immediate medical attention. Generally the criteria for immediately contacting 911 are:

- The person experiences one seizure immediately after another in excess of 5 minutes.
- The person does not regain consciousness following the seizure.
- The seizure lasts longer than it usually does for the person.
- Any seizure lasting longer than 5 minutes unless otherwise directed by the person's physician.
- The person does not begin breathing (a respiratory arrest) following a seizure.

Generalized Absence Seizures

This seizure used to be referred to as the "petit mal" seizure and is more likely to be seen in children. Most people with this type of seizure out grow it by the time they become adults and it often goes unnoticed because it is so subtle and of such a brief nature.

- A brief loss of consciousness (1-30 seconds) with no memory of the incident. There may be eyelid fluttering, facial twitching or chewing movements of the mouth.
- There is no confusion following the seizure.

Follow-up Care for Generalized Absence Seizures

- Remain calm.
- Provide the person with any information that they may have missed as a result of the seizure activity.
- Stay with the person until the seizure activity has stopped and be prepared to provide fist aid in the event it should change into a generalized tonic-clonic seizure. (It is possible for this type of seizure to lead into a generalized tonic-clonic.)
- Document the seizure activity you observed according to your program's guidelines.

Partial Seizures

The two main types of partial seizures are the "simple partial" and the "complex partial seizure." The simple partial seizure used to be known as a "facol motor" or "Jacksonian" seizure.

Key Characteristics of Simple Partial Seizures are:

There is no loss of consciousness. Usually affects one limb or one side of the body and can be either stiffening or jerking of the affected area. This type of seizure may change into a generalized tonic-clonic seizure.

Care for Simple Partial Seizures

With this type of seizure there is limited assistance that is required. If you should witness one be prepared to:

- Remain calm and provide emotional support to the person.
- Stay with the person until the seizure activity has stopped and be prepared to provide first aid in the event that it should change into a generalized tonic-clonic seizure.
- Document the seizure activity according to program guidelines.

Complex Partial Seizures

This type of seizure used to be known as the "pychomotor" or "temporal lobe" seizure. It is common for this type of seizure to vary greatly between individuals. Generally you'll tend to

see the same type of physical signs repeated in subsequent seizure activity by the same person.

Key characteristics of Complex Partial Seizures are:

There is often a forewarning or aura, just prior to the seizure. The type of seizure activity you witness can vary between individuals but is often characterized by repetitive purposeless activity or speech. There is usually no memory of the seizure and the person may be confused after it. The seizure usually lasts 1-3 minutes.

Care for Complex Partial Seizures

- If you witness this type of seizure be prepared to perform the following measures:
- Remain calm
- Talk to the person in a calm manner.
- Don't attempt to stop or restrain them from what they are doing unless they are in a situation that puts them at risk for injury. Gently attempt to guide them away from areas of potential danger.
- Stay with the person until they are fully alert and provide emotional support.
- Document the seizure activity according to instructions.

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Bowel Care Programs

A spinal cord injury (SCI) generally affects the process of eliminating waste from the intestines. This can result in a:

- Reflexive bowel, which means you cannot control when a bowel movement occurs.
- Flaccid bowel, which means you cannot have a bowel movement. If stool remains in the rectum, mucus and fluid will sometimes leak out around the stool and out the anus (fecal incontinence).
- You or a caregiver can manage both of these types of bowel problems to prevent unplanned bowel movements, constipation, and diarrhea. Although this often seems overwhelming at first, knowing what to do and establishing a pattern makes bowel care easier and decreases your risk of accidents.
- When choosing a way to deal with bowel problems, you and your rehab team will discuss such factors as the type of bowel problem you have, your diet, whether you or a caregiver will do the program, and any medications that may affect your program.

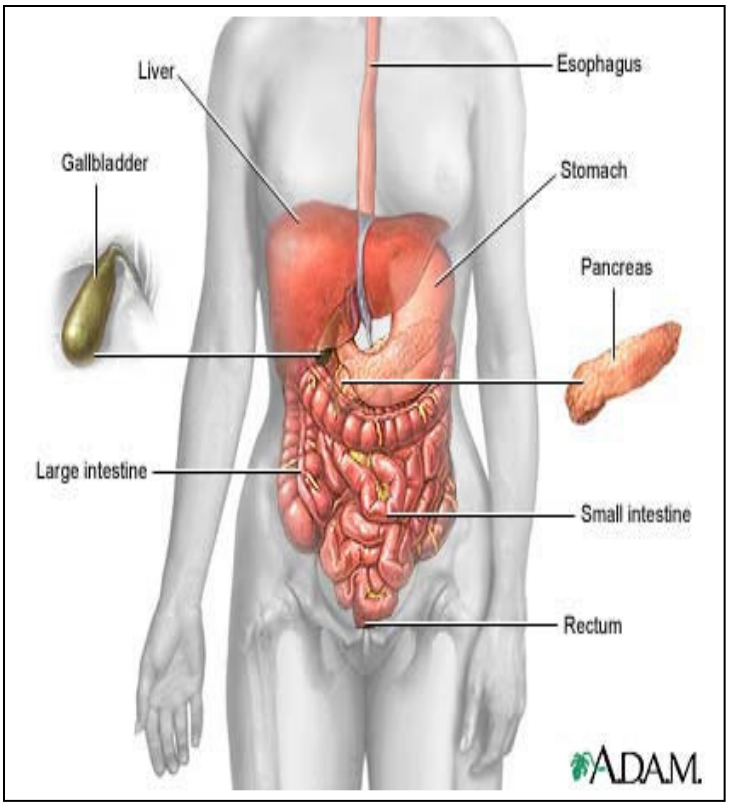
Bowel programs

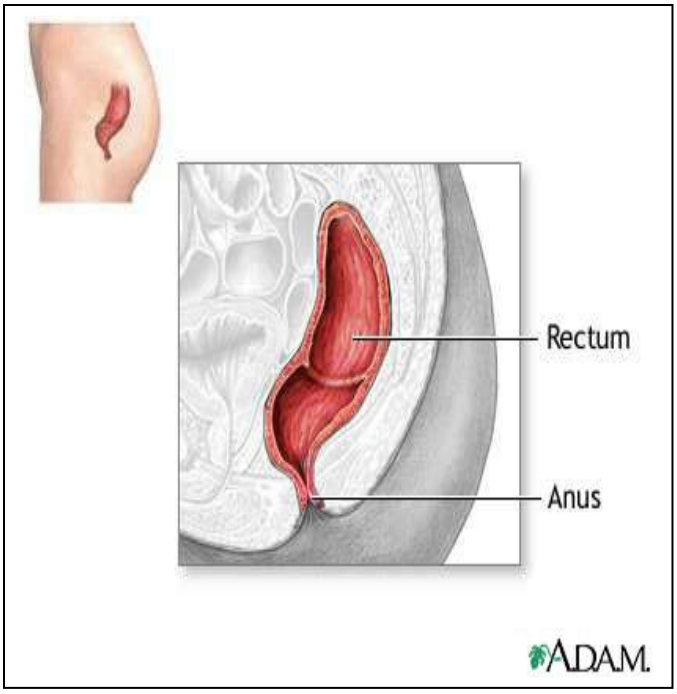
- For a reflexive bowel, you usually use a stool softener, a suppository to trigger the bowel movement, and/or stimulation with your finger (digital stimulation). There are a variety of stool softeners and suppositories available; you will have to experiment to find the one that works best for you.
- For a flaccid bowel, you usually use digital stimulation and manual removal (disimpaction) of the stool. Initially, you do this program every other day. Later, you may need to do it more often to prevent accidents. You may also have to adjust how much and when you eat.
- For some people with SCI, eating more fiber can help with managing their bowel habits. Good sources of fiber include whole grain breads and cereals, fruits, and vegetables.
- For best results:
- Do your program at the same time every day. Most people do their bowel program in the morning, although you should pick the most convenient time. Once you have picked a time, stay with it.
- Sit up if possible; this can help move the stool down in the intestine. If you cannot sit up, lie on your side.

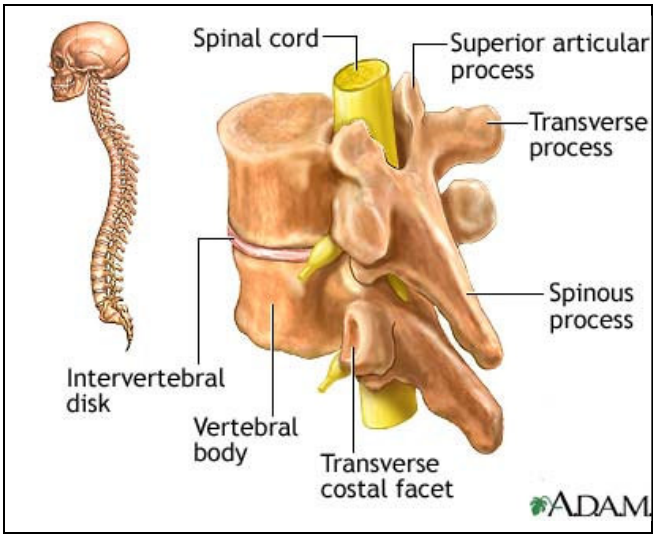
Bowel Care

- It is important that you practice cleanliness and be gentle while inserting anything into the anus.
- Always wash your hands and use gloves. Lubricate the finger of the glove with K-Y jelly or a similar product.
- For digital stimulation, gently insert the finger in the anus and move it in a circular motion for no more than 10 to 20 seconds every 5 to 10 minutes until you have a bowel movement.
- To remove stool, gently insert the finger and remove stool. Continue to do so until none comes out. Wait a few minutes and then try again to see if any more stool has moved down.
- To insert a suppository, first remove stool. Otherwise, the suppository will not work. Take the wrapper off the suppository and insert it as high as you can.

Please reference the following diagrams:







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Bladder Management

Common ways to manage bladder function include the following:

- **Intermittent self-catheterization programs (ICPs)** are often used when you have the ability to use a catheter yourself or someone can do it for you. You insert the catheter—a thin, flexible, hollow tube—through the urethra into the bladder and allow the urine to drain out. It is done at scheduled times, and the catheter is not permanent.
- If you cannot use self-catheterization, you can use a permanent catheter known as an I**ndwelling Foley Catheter** . This type of catheter is inserted through the urethra into the bladder and has a balloon on the end that is inflated with sterile water once the end is inside the bladder. The inflated balloon prevents the catheter from slipping out. Urinary tract infections are more likely to occur with long-term use of an indwelling catheter than with an ICP. Caring for the catheter is important to avoid infections.
- If you use an indwelling Foley catheter, after a period of time you may be able to change to a **Suprapubic Indwelling Catheter.** This is a permanent catheter that is surgically inserted above the pubic bone directly into the bladder. It does not go through the urethra.
- For men, a condom catheter can also be used. A catheter and collection bag are attached to a condom. When you urinate, the urine goes through the condom and catheter to the bag. Condom catheters are only for short-term use, because long-term use increases the risk of urinary tract infections, damage to the penis from friction with the condom, and a block in the urethra.
- If you have a spastic bladder, you may be able to "trigger" the bladder to contract and avoid having to use a catheter. To do this, you can try tapping on the bladder area, stroking your thigh, doing push ups in your wheelchair, or using Valsalva maneuvers, which is breathing out without letting air escape through the nose or mouth.
- It is also possible to use **absorbent products,** such as adult diapers. However, they can result in recurring skin irritations
- **Bladder Care**
- You may use just one program or a combination of methods. In general, any of the first three methods can be used if you cannot store urine (spastic bladder), and an ICP is used if you cannot empty your bladder (flaccid bladder).
- The most important factors in bladder management are monitoring the amount of fluids you drink, following a regular schedule for emptying your bladder, and being sure that you empty your bladder completely.

Catheter Care for Men

Preparation:

- Be sure you have everything you need. This generally includes a catheter, a water-based lubricant, a container to collect the urine, latex or medical gloves, and cleansing equipment, such as cotton balls, paper towels, soap, and antiseptics.
- Wash your hands thoroughly with soap and water, and put on the gloves.
- Get into a position that is most comfortable for you and/or your caregiver.
- Wash the top of your penis with soap and water, or use an antiseptic.
- Position the end of the catheter so that urine can flow out into a collection container.
- Lubricate about 2 in.(5.1 cm) of the tip of the catheter.

Catheterization:

- If you are not circumcised, pull back the foreskin and keep it back during the procedure.
- Hold your penis straight out in front of you, so its head is pointing away from your body. You may also hold it erect, so that it is pointing up.
- Gently insert the catheter into the urethra, the opening in the penis. If you feel resistance, pause for a few minutes and then gently press the catheter in again. If you cannot insert the catheter, do not force it. Stop, and call your health professional.
- When urine begins to flow, insert the catheter about 2 in.(5.1 cm) more into the penis.

- When the urine stops flowing, press your abdomen or tighten the abdomen muscles. This helps to completely empty the bladder.
- Remove the catheter slowly. If urine begins to flow again, stop removing the catheter until the urine flow stops.
- Wash your hands, or take off your gloves.
- Examine the urine. If it is cloudy, has blood in it, or there has been a change in color or odor, call your health professional.

Catheter care:
- Wash the catheter with soap and water, or put it in an antiseptic solution.
- Rinse the catheter, inside and out, with clean water. Some people use a syringe to push soapy water through the catheter.
- Dry the catheter. Place it on a clean towel, fold the towel over, and hang the towel on a rack.
- Once the catheter is dry, place it in a plastic baggy.

Catheter Care for Women

Preparation:
- Be sure you have everything you need. This generally includes a catheter, a mirror, a container to collect the urine, latex or other medical gloves, and cleansing equipment, such as cotton balls, paper towels, soap, and antiseptics. You may also want to use a water-based lubricant.
- Wash your hands thoroughly with soap and water, and put on the gloves.
- Get into a position that is most comfortable for you and/or your caregiver. This is generally sitting or lying down.
- Position the end of the catheter so that urine can flow out into a collection container. If you wish, lubricate the tip of the catheter.
- Separate your vulval folds with your thumb and middle finger.
- Wash the vulva area with soap and water. Wash from front to back.
- Position the mirror between your legs so you can find the urinary opening. However, you should learn to do this without a mirror as well.

Catheterization:
- Slowly insert the catheter into the urinary opening. If you feel resistance, pause for a few minutes and then gently press the catheter in again. If you cannot insert the catheter, do not force it. Stop, and call your health professional.
- When urine begins to flow, insert the catheter about 1 in.(2.5 cm) more.
- When the urine stops flowing, press your abdomen or tighten the abdomen muscles. This helps to completely empty the bladder.
- Remove the catheter slowly. If urine begins to flow again, stop removing the catheter until the urine flow stops.
- Wash your hands or take off the gloves.
- Examine the urine. If it is cloudy, has blood in it, or there has been a change in color or odor, call your health professional.

Catheter care:
- Wash the catheter with soap and water, or put it in an antiseptic solution.
- Rinse the catheter, inside and out, with clean water. Some people use a syringe to push soapy water through the catheter.
- Dry the catheter. Place it on a clean towel, fold the towel over, and hang the towel on a rack.
- Once the catheter is dry, place it in a plastic baggy.

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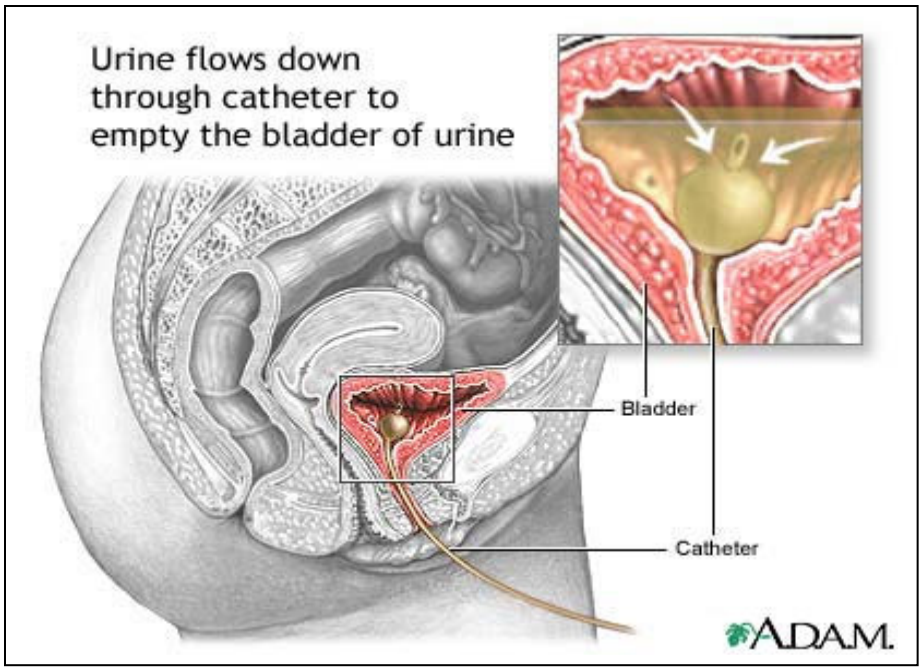

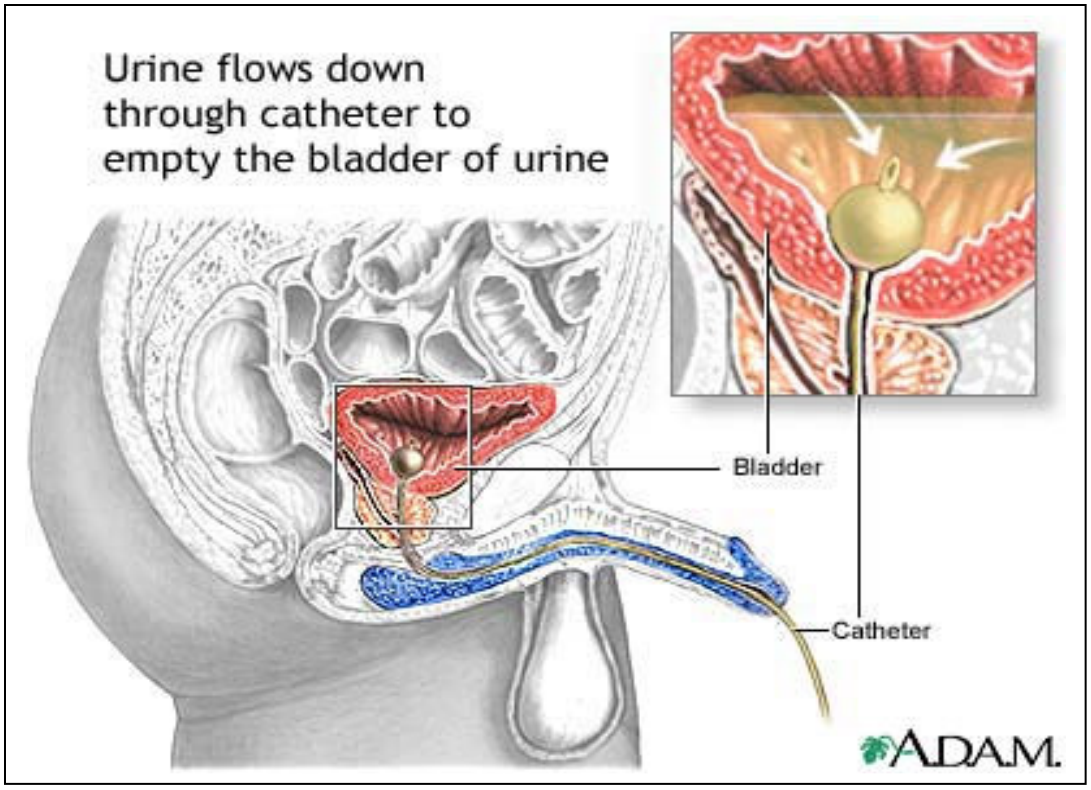

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