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POSE OF THE MONTH
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Janu Sirsasana C – Head to knee pose. Janu means knee, sirsa means head. Janu C is the final of the head to knee sequence in the Primary Series of Ashtanga Yoga. This pose can literally take 10 years to work into (it did me!), the twist of the knee joint at first seems like a threat to the knee but in actuality it is therapeutic for the knees and has been touted to cure chronic knee inflammation.

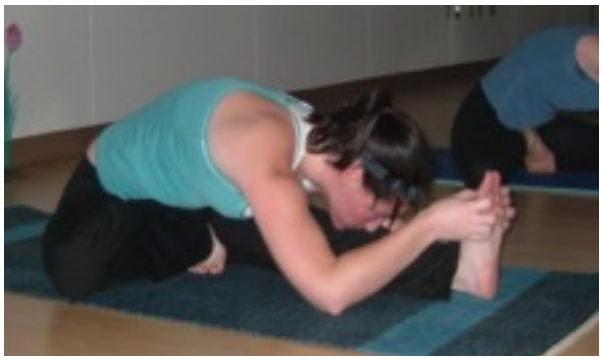
Method:

- From Downward dog, hop through to Dandasana.
- Inhaling lift your right leg, thread your right arm inside the right thigh and then underneath the calf, catch your toes with the palm of your right hand and gently pull them back

- Catch your heel with your left hand and carefully begin to rotate the heel upward as you bring the ball off your foot to the floor trying to match up the arch of your foot around your left inner thigh. **If you suffer from knee pain you may need to remain in the 'holding position' holding your foot off the floor and gently encouraging rotation of the foot and leg.**

- If you can get the ball of your foot to the floor (again you can hold here for the pose) you want to work your foot toward a vertical position. This is most easily done by lifting your hips and scooting your hips forward closer to your foot.
- Swivel your right hip and knee forward moving your knee in closer to your left leg (ideally your right knee will come in to a 45º angle), at this point your right thigh should to start internally rotate (right thigh moving down and in).

- If you are still able to continue with this pose, reach out and catch your left foot with both hands, inhale extend your spine and pull your lower abdomen in, exhaling forward bend over your left leg, while aiming your heel just below your navel. If you feel pressure on your pinky toe you can reach down and slide the toe toward the other toes to relieve pressure or carefully try to rotate your foot slightly more.



- Stay here for five deep breaths. Drishti is toward toes.
- Inhale come up for vinyasa and switch sides.

Benefits
During Janu Sirsasana C in females the heel presses into the uterus, this is therapeutic for the female reproductive system, just as the B position is therapeutic for the male reproductive system.

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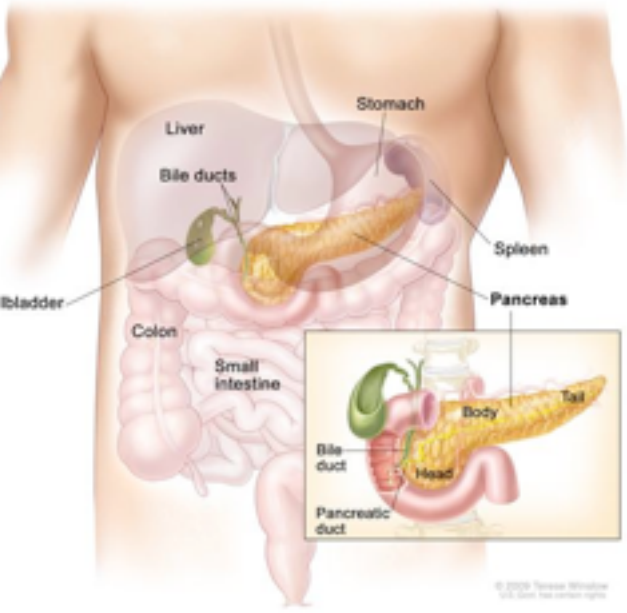
The entire Janu Sirsasana series of poses has a powerful effect. Of importance is the pressure from the heel placed on the nerve which stimulates the pancreas to make sufficient insulin (Virya Nala), Janu Sirsasana A & B for men put pressure on this nadi and C for women (although all three poses are beneficial for both sexes and should be practiced by all).

Also, the nerve to the liver is stimulated by Janu Sirsasana B&C helping the liver to digest the food we eat and detoxify our blood. In addition the heel generates heat which adds a therapeutic effect.

The Pancreas

The pancreas is a gland organ in the digestive and endocrine system. It is both an endocrine and exocrine gland. Endocrine means "in pouring" -- pouring hormones into our blood, **producing several important hormones, including insulin, glucagon, and somatostatin.** (Glucagon is the opposite of Insulin -- in that it raises our blood glucose levels when our blood sugars fall too low. Glucagon stimulates the liver to covert stored glycogen into glucose which is released into our blood stream for energy.
Somatostatin secreted by the pancreas acts as a hormone that inhibits the secretion of the other pancreatic hormones, insulin and glucagon, and reduces the activity of the digestive system -- this is done by the body if we need blood to exercising muscles, etc. blood is diverted from digestion to where our body needs it.)
The pancreas is also an exocrine gland (exocrine means out-pouring, -- pouring through a gland to something external) **secreting pancreatic juice containing digestive enzymes to the small intestine.** These enzymes help in the breakdown of the carbohydrates, protein, and fat improving digestion. The pancreas then also creates a bicarbonate solution to buffer the food from the stomach to the duodenum on its way to the small intestine.

So the pancreas has two main functional components: endocrine, to produce insulin and other hormones, and exocrine, to produce pancreatic juices for digestion. The pancreas is in direct contact with the stomach, duodenum, spleen, and major vessels of the abdomen.



The pancreas has more nerves connected to it than any other organ I have yet studied! What is in yoga, is that we are not actually trying to press on the pancreas with our heel as we do the other organs. The pancreas handles several oppositional functions -- from the production and release of insulin and somatostatin (which are oppositional) to the production and release of strong acid for digestion to a bicarbonate solution that neutralizes the acid as it leaves the stomach. So you don't want to be poking around on just any area of the pancreas -- the digestive acid it creates is so acidic that if the pancreas were to rupture the acid would burn surrounding tissues. In one book I read it referred to the pancreas as the P-bomb . . . Instead we use our heel to press on

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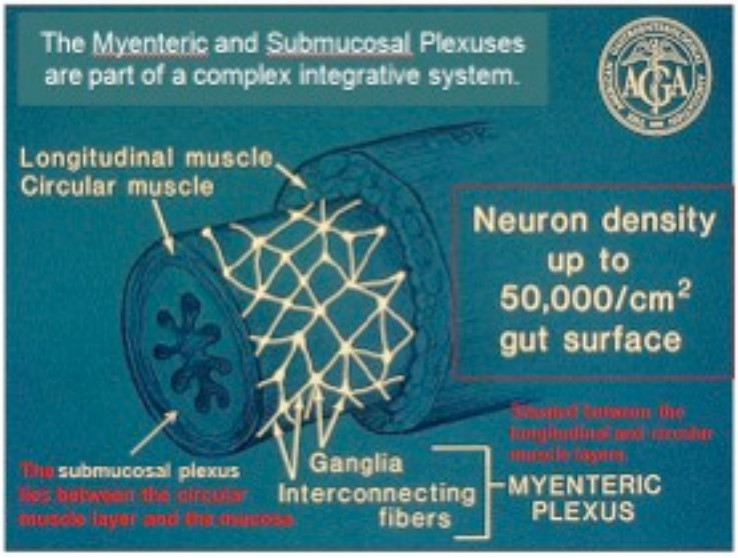
nerves innervating the pancreas.

Furthermore the position of the pancreas on our abdomen is further sign that we don't want to mess with it. The pancreas is located behind the stomach and in front of the kidneys -- deep in the center of our body where it is well protected.Nerves connected to the pancreas tie both to the parasympathetic (calming) and sympathetic (stimulating) nervous system . . . remember the pancreas likes oppositional tasks . . .

This is another example of why something like diet soda is not effective . . . your body tastes sugar, thinks its getting sugar so the pancreas prepares by sending out insulin (via communications through the vagus nerve), then sugar does not come. Because of the insulin release your blood sugar drops . . . Do you know what happens whe your blood sugar drops? You gett very hungry . . . suddenly you are craving sugar and heading for a snack . . . You can't fool the body.

Parasympathetic neural inputs are activated (after traveling through the vagus nerve) through stimuli -- sight, scent, taste -- stimulating insulin secretion even before there is an increase in blood glucose. Insulin is secreted in anticipation of food -- our body likes to be prepared!
Input from the sympathetic nervous system inhibits insulin secretion -- for times when your muscles need glucose. During activity the body needs to prevent glucose uptake by non-muscle cells (which insulin stimulates), so insulin secretion is inhibited.

The Virya Nala
In Yoga Mala it says this nadi connects to the liver and is responsible for creating insulin (pg. 90). In yoga mala also it refers to virya nala as the passageway that sperm flows through (pg. 109 supta padanghustasana). Since the virya nala is present in women it would lead me to believe that the virya nala is NOT only the vas deferens (passageway for sperm). There is a gut-pancreas direct connection, the myenteric plexus (which is connected to the vagus nerve, the pancreatic plexus, and the Enteric Nervous System which connects into the Central Nervous System! -- Connecting pretty much the entire body . . .).



The myenteric plexus functions as part of the Enteric Nervous System or ENS (the nervous system of intestines and digestion). The main "job" of the myenteric plexus is motor activity -- moving something along its path. The myenteric plexus is a network of unmyelinated nerve fibers and neuron cell bodies that are tucked in among the layers of our esophagus, stomach and intestines. It tells the smooth muscles to contract to move matter along its path. Unmyelinated nerves moves slower than nerves that have a myelin sheath around them.

This plexus is an important component of the entire digestive tract. There is only one myenteric plexus by the way; since the neurons are present in the different organs I thought each organ had its own plexus . . . this is not the case they all connect through the ENS.

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Putting your heel in Janu Sirsasana C position would put pressure on these nerves in the intestines stimulating their action throughout the entire digestive tract. Pattabhi Jois mentions that women need Janu Sirsasana C to access the functions of the Virya Nala however men can also access the virya nala through Janu Sirsasana B -- along with the mention of the Virya Nala being the passage way for sperm would lead me to believe that the myenteric plexus would also be in the tissues of the vas deferens and possibly the urethra which men could access through the perineum and their urethra is longer than in women.

The myenteric plexus through the Enteric Nervous System also controls secretion of hormones into the blood (ex. insulin), absorption, blood flow and the interactions between the organs. Making the gut-pancreas connection an important connection in how the body times digestion and absorption of nutrients.

So an interesting fact here . . . some of this research on the myenteric plexus is new research (from the book "The Second Brain" by Michael D. Gershon, MD). . . how did Pattabhi Jois have this information in the 30s and 40s? And the Yogic texts even before that . . .

I can not be positive that Janu Sirsasana B & C directly press on the splanchnic nerve and the myenteric plexus respectively, in my research these are likely components of the reason why we are using the Janu Sirsasana series as a tool for our complete health.

Here is what wikipedia has to say about the myenteric plexus:
Auerbach's plexus (or myenteric plexus) provides motor innervation to both layers of the tunica muscularis, having both parasympathetic and sympathetic input, and provides secretomotor innervation to the mucosa nearest the lumen of the gut.

It arises from cells in the nucleus ala cinerea, the parasympathetic nucleus of origin for the tenth cranial nerve (vagus nerve), located in the medulla oblongata. The fibers are carried by both the anterior and posterior vagal nerves. The myenteric plexus is the major nerve supply to the gastrointestinal tract and controls GI tract motility.[1]

They are neurons without a sheath like other nerves. Through intestinal <smooth> muscles, the motor neurons control peristalsis and churning of intestinal contents. Other neurons control the secretion of enzymes.

The myenteric plexus is the digestive nerve plexus -- intricate layers of nervous tissue that control movements in the esophagus, stomach, and intestines. The myenteric plexus is situated between the circular muscle layer and the longitudinal muscle layer in the lower esophagus, stomach, and intestines.

Britannica has say:
The myenteric plexus receives its messages from the vagus nerve and responds by transmitting the message to muscle cells, which are thereby activated to contract. Control of nerve impulses is involuntary. The muscles of the stomach and intestines play an active role in digestion, as waves of muscle contractions (peristaltic waves) push food through the parts of the digestive tract. It is thought that the myenteric plexus stimulates the muscles to contract in peristaltic waves and that it helps keep muscle tone throughout the intestine walls, promotes secretions of intestinal juices, and allows muscular constrictions (sphincters) to open, thus permitting food to pass from one part of the digestive system to another.

Events that are controlled, at least in part, by the ENS are multiple and include motor activity, secretion, absorption, blood flow, and interaction with other organs such as the gallbladder or pancreas. These links take the form of parasympathetic and sympathetic fibers that connect either the central and enteric nervous systems or connect the central nervous system directly with the digestive tract. Through these cross connections, the gut can provide sensory information to the CNS, and the CNS can affect gastrointestinal function. Connection to the central nervous system also means that signals from outside of the digestive system can be relayed to the digestive system: for instance, the sight of appealing food stimulates secretion in the stomach.[4]

Also of mention by Pattabhi Jois is the connection of the virya nala to the liver channel. Does he mean the liver channel as in acupuncture? If so that is an easy connection to make . . . or was he

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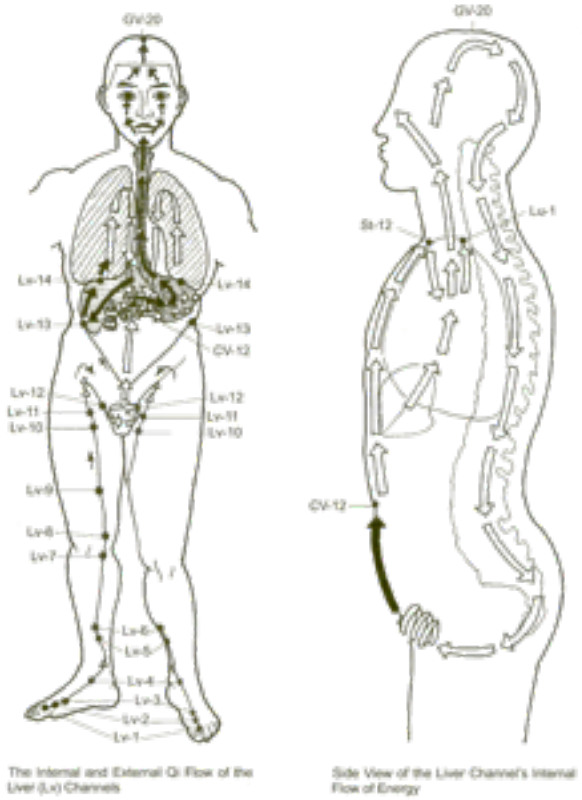
referring to the the pancreas duct which connects with the liver and gall bladder bile duct and enter the duodenum together delivering bile and digestive chemicals to the small intestine . . .



The Internal and External Qi Flow of the Liver (Lv) Channels

Side View of the Liver Channel's Internal Flow of Energy

According to Chinese medicine the liver channel flows from our big toes to the crown of our head (one of the reasons we catch our big toes in the postures!), on its path it goes along the inner thigh to the groin, circulates the external genitals, connects with the conception vessel and continues upward. This certainly would put the liver meridian in contact with the myenteric plexus:

Beginning by the inside of the big toenail, the liver channel crosses the top of the foot, passes in front of the inside ankle and up the aspect of the leg through SP-6 close behind the edge of the bone. It continues past the knee along the inner thigh to the groin and pubic region, where it circulates the external genitals. It connects with the conception vessel in the lower abdomen and continues up around the stomach to enter both the liver and gallbladder. Connecting with two surface points on the ribs, the channel then dips into the ribcage, runs up through the throat, opening to the eye, and ends at the crown of the head where it connects with the governing vessel. A branch circles the mouth. From within the liver, another internal branch reaches the lungs, and this restarts the cycle of qi.
(excerpt from and good info on liver meridian: http://lieske.com/channels/5e-liver.htm)

The Pancreas in the Emotional Body

The pancreas represents the sweetness of life. Diabetes may be a result of not having sweetness in your life. Pancreatitis tends to be the result of someone who worries too much, having deep fear about losing control over your own or others well being.

The pancreas is the gland linked with the solar plexus chakra (3rd chakra) which deals with emotions, desires, and intellectual activities. Diabetes or pancreatitis are signs that we are worrying too much -- losing the sweetness of life. Instead focus on what you do have in your life that is sweet, don't let yourself be distracted by what you may want tomorrow.

Whew! This concludes my study on the Janu Sirsasana series (for now). I have put many many hours into this research -- more than any other pose at this time. I certainly wish I had this knowledge when I was learning the series in the 90s . . . I did not like Janu Sirsasana . . . it was tight on my body so I skipped it for a couple years! Now I understand why we do these funky things with our heels . . . The Janu Sirsasana series is a powerful series that gets into the nervous system regulating many important functions that keep our body in good health.