



SPECIALTY 05 · ANS

Intimate Health

Pelvic floor, urology, pelvic pain and sexual function.

12 SHEETS

What NESA modulates (and what it doesn't)

NESA does not treat or cure any of the conditions covered in these sheets. Its non-invasive neuromodulation acts on the autonomic nervous system (ANS) to help relieve the symptoms associated with its dysregulation —dysautonomia— that accompanies each condition. It does not replace diagnosis, medication or the professional's judgement: it supports them.

IN PLAIN WORDS, FOR THE PATIENT



Your body runs on electricity

Every heartbeat, movement and thought travels as a tiny electrical signal along your nerves.



The ANS is your autopilot

The autonomic nervous system quietly runs your heart, breathing, digestion and sleep — without you thinking about it.



It has an accelerator and a brake

The "sympathetic" switches you on; the "parasympathetic" calms you down. Health is when they take turns at the right time.

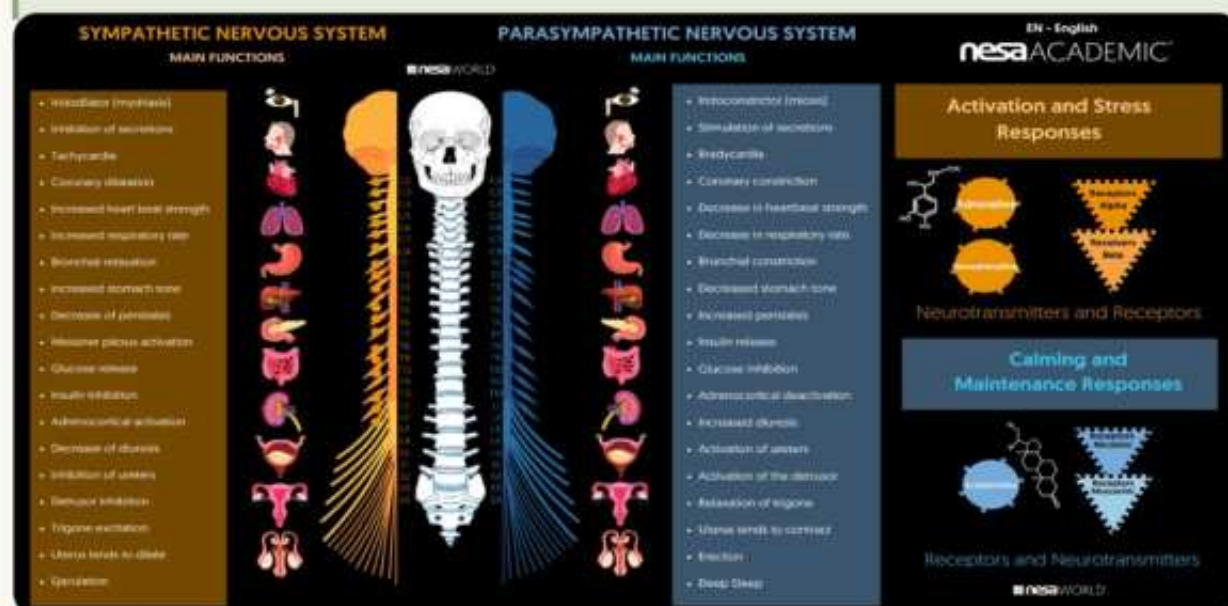


NESA speaks that language

Very gentle microcurrents through hands and feet help the accelerator and brake find their balance again.



Safe and imperceptible. No needles, no heat: the current is so faint it stays below what you can feel. Most people notice nothing during the session.



Main functions of the sympathetic and parasympathetic branches: the physiological ground —the ANS— on which NESA neuromodulation acts.

REFERENCE Goldstein DS, Robertson D, Esler M, Straus SE, Eisenhofer G. *Dysautonomias: clinical disorders of the autonomic nervous system*. Ann Intern Med. 2002;137(9):753–763. • Thayer JF, Lane RD. *A model of neurovisceral integration in emotion regulation and dysregulation*. J Affect Disord. 2000;61(3):201–216.



Chronic pelvic pain and your nervous system

When your lower abdomen or pelvis has hurt for months and tests cannot explain it.

1 STEP 1 Do you recognise this?

- ✓ Pain in the lower abdomen or pelvis
- ✓ Discomfort when sitting
- ✓ Tests that do not explain it
- ✓ Pressure or heaviness
- ✓ Pain at times during sex
- ✓ Worse with stress

“ Have you had pelvic pain for more than 3 months?

“ Do tests come back normal but the pain continues?

3 STEP 3 The loop

- 1 The pelvic floor stays on guard.
- 2 Tension, poor blood flow and oversensitivity.
- 3 More pain that raises the guard further.

AND IT STARTS AGAIN

2 STEP 2 What happens in your nervous system

Picture a *smoke alarm stuck on “ON”* on the floor of your home, the pelvis. Your nervous system has an “accelerator” and a “brake”, and right now they are out of balance.

⚡ Accelerator

Sympathetic - overactive; keeps the pelvic floor on guard.

⏸ Brake

Parasympathetic - barely engages; the floor will not let go.

The “accelerator” holds the tension, **shuts down blood flow** and leaves the area oversensitive (the alarm rings with no danger).



A calmer body tolerates the pelvic area better.

4 STEP 4 How NESA fits in

Gentle, **non-invasive and painless** microcurrents, with electrodes on the hands and feet, help your nervous system restore the balance between **accelerator** and **brake**.

It helps lower the alarm and restore blood flow so the pelvic floor can release and the pain signal can settle.

5 STEP 5 With your professional and what you may notice

With your physiotherapist

NESA **does not replace** their work: it prepares a calmer system for pelvic floor relaxation, biofeedback and manual therapy.

✓ What you may notice

- ✓ Less baseline pain
 - ✓ A more relaxed pelvic floor
 - ✓ Better tolerance of activity
- Results vary from person to person.*



Endometriosis and your nervous system

When periods are very painful, pelvic pain returns every month and sex is sometimes uncomfortable.

1 STEP 1 Do you recognise this?

- ✓ Very painful periods
- ✓ Pain during sex
- ✓ Tiredness
- ✓ Pelvic pain that returns each cycle
- ✓ Discomfort passing urine or stool during periods
- ✓ Pain that spreads to other areas

“ Are your periods far more painful than usual?

“ Does pelvic pain return with every cycle?

3 STEP 3 The loop

- 1 Cyclical inflammation each month.
- 2 System on alert and a tense floor.
- 3 Amplified pain and more alert.

AND IT STARTS AGAIN

2 STEP 2 What happens in your nervous system

Picture *embers that rekindle the fire every month* in the pelvis. Your nervous system has an “accelerator” and a “brake”, and they are out of balance.

⚡ Accelerator

Sympathetic · turns up the “gain” of pain with each flare.

⏸ Brake

Parasympathetic · barely engages: the pelvic floor tightens.

Repeated inflammation keeps the area **on alert** and the pelvic floor tense, shutting down blood flow.



Meeting the cycle with a calmer system.

4 STEP 4 How NESA fits in

Gentle, **non-invasive and painless** microcurrents, with electrodes on the hands and feet, help your nervous system restore the balance between **accelerator** and **brake**.

~ It helps turn down the “volume” of pain and release the pelvic floor, for more manageable days alongside medical treatment.

5 STEP 5 With your professional and what you may notice

♥ With your gynaecologist

NESA **supports** the plan of your gynaecologist and pelvic floor physiotherapist; it never replaces treatment or follow-up.

✓ What you may notice

- ✓ Days with less pain
 - ✓ Better rest
 - ✓ Better quality of life
- Results vary from person to person.*



Overactive bladder and your nervous system

When a sudden, uncontrollable urge to pass urine comes on and you go very often.

1 STEP 1 Do you recognise this?

- ✓ Sudden, intense urge to pass urine
- ✓ Getting up at night
- ✓ Feeling you cannot hold on
- ✓ Going very often during the day
- ✓ Sometimes leaking before you reach the toilet
- ✓ Always planning around the toilet

“ Does the urge come on suddenly and very strongly?

“ Do you go to the toilet far more often than normal?

3 STEP 3 The loop

- 1 An oversensitive reflex.
- 2 A false urgency signal.
- 3 More trips and fear of leaks → more sensitivity.

↻ AND IT STARTS AGAIN

2 STEP 2 What happens in your nervous system

Picture a *bladder doorbell that rings when it is not full*. Your nervous system has an “accelerator” and a “brake”, and they are out of balance.



Accelerator

Sympathetic · triggers urgency even with little urine.



Brake

Parasympathetic · does not calm the emptying reflex.

The emptying reflex becomes **too sensitive** and signals urgency at the wrong time.



Regaining bladder control, without the rush.

4 STEP 4 How NESA fits in

Gentle, **non-invasive and painless** microcurrents, with electrodes on the hands and feet, help your nervous system restore the balance between **accelerator** and **brake**.

~ It helps recalibrate the reflex so the bladder signals at the right time and you regain control.

5 STEP 5 With your professional and what you may notice

With your urogynaecologist

NESA **boosts** the bladder retraining and biofeedback of your urogynaecologist/urologist and pelvic floor physiotherapist.

What you may notice

- ✓ Less urgency and leaking
 - ✓ Fewer trips to the toilet
 - ✓ More peace of mind
- Results vary from person to person.*



Interstitial cystitis and your nervous system

When you feel burning or pressure in the bladder, pass urine very often and cultures are negative.

1 STEP 1 Do you recognise this?

- ✓ Burning or pressure in the bladder and pelvis
- ✓ Discomfort that eases on emptying and returns
- ✓ Negative urine cultures
- ✓ Needing to pass urine very often
- ✓ Worse with certain foods
- ✓ Poor sleep

“ Do you often have burning or pressure in the bladder?

“ Are your urine tests clear yet you still feel unwell?

2 STEP 2 What happens in your nervous system

Picture a *small graze that stings with every drop*. Your nervous system has an “accelerator” and a “brake”, and they are out of balance.

⚡ Accelerator

Sympathetic · holds the alarm in the bladder and its nerve.

⏸ Brake

Parasympathetic · barely engages: the floor tenses in defence.

The bladder and its nerve are **oversensitised** and the pelvic floor closes in defence.

3 STEP 3 The loop

- 1 An oversensitive bladder.
- 2 Alarm and a tense floor.
- 3 More burning and urgency → more sensitivity.

🔄 AND IT STARTS AGAIN



A less irritated bladder, for better rest.

4 STEP 4 How NESA fits in

Gentle, **non-invasive** and **painless** microcurrents, with electrodes on the hands and feet, help your nervous system restore the balance between **accelerator** and **brake**.

~ It helps calm that oversensitivity and release the pelvic floor so the bladder troubles you less.

5 STEP 5 With your professional and what you may notice

♥ With your urologist

NESA **supports** your urologist and pelvic floor physiotherapist; it does not replace their treatment.

✓ What you may notice

- ✓ Less burning and pressure
 - ✓ Less urgency
 - ✓ Better rest
- Results vary from person to person.



Urinary incontinence and your nervous system

When urine leaks as you cough, laugh, sneeze or make an effort.

1 STEP 1 Do you recognise this?

- ✓ Leaks when coughing, laughing or sneezing
- ✓ Sometimes with urgency too
- ✓ Wearing a pad just in case
- ✓ Avoiding exercise or laughter
- ✓ A feeling of little control
- ✓ Less confidence

“ Does urine leak when you cough, laugh or strain?

“ Do you avoid activities for fear of a leak?

3 STEP 3 The loop

- 1 The closing arrives late.
- 2 Leaks appear.
- 3 More avoidance and less tone → more discoordination.

🔄 AND IT STARTS AGAIN

2 STEP 2 What happens in your nervous system

Picture a door whose spring does not close in time: that spring is your pelvic floor. Your “accelerator” and “brake” are out of balance.

⚡ Accelerator

Sympathetic - sustained: drains tone and precision from the muscle.

🛑 Brake

Parasympathetic - poor blood flow disrupts the reflex closing.

The pelvic floor and its **reflex coordination** are out of step, so the closing arrives late.



A pelvic floor that responds when you need it.

4 STEP 4 How NESA fits in

Gentle, **non-invasive and painless** microcurrents, with electrodes on the hands and feet, help your nervous system restore the balance between **accelerator** and **brake**.

~ It helps improve blood flow and coordination of the pelvic floor so the closing responds better, alongside your re-education.

5 STEP 5 With your professional and what you may notice

♥ With your physiotherapist

NESA **boosts** the exercises and biofeedback of your pelvic floor physiotherapist and the follow-up of your urogynaecologist.

✓ What you may notice

- ✓ Fewer leaks
 - ✓ More confidence when moving
 - ✓ Laughing or exercising with confidence
- Results vary from person to person.*



Functional constipation and your nervous system

When you go rarely, strain a lot and feel you do not empty completely.

1 STEP 1 Do you recognise this?

- ✓ Going to the toilet rarely
- ✓ A lot of straining
- ✓ A feeling of incomplete emptying
- ✓ Needing manoeuvres to help
- ✓ Abdominal bloating
- ✓ Discomfort or pressure in the perineum

“ Do you strain a lot and still not empty completely?

“ Have you had constipation for a long time with no clear cause?

3 STEP 3 The loop

- 1 Discoordination when pushing.
- 2 The exit closes.
- 3 More straining and slowing → more discoordination.

↻ AND IT STARTS AGAIN

2 STEP 2 What happens in your nervous system

Picture *an exit that closes just when it should open*. Your nervous system has an “accelerator” and a “brake”, and they are out of balance.

⚡ Accelerator

Sympathetic - slows the bowel transit.

🛑 Brake

Parasympathetic - the muscle that should open, closes (dyssynergia).

The **coordination** between pelvic floor and bowel is disrupted: when you push, the exit closes.



Restoring the natural rhythm, without forcing.

4 STEP 4 How NESA fits in

Gentle, **non-invasive and painless** microcurrents, with electrodes on the hands and feet, help your nervous system restore the balance between **accelerator** and **brake**.

~ It helps restore the bowel rhythm and release the pelvic floor so the exit coordinates better.

5 STEP 5 With your professional and what you may notice

♥ With your physiotherapist

NESA **supports** the re-education and defecatory biofeedback of your pelvic floor physiotherapist and the follow-up of your doctor.

✓ What you may notice

- ✓ Going with less straining
 - ✓ More complete emptying
 - ✓ Less bloating
- Results vary from person to person.*



Erectile dysfunction and your nervous system

When it is hard to get or keep an erection, especially under tension or worry.

1 STEP 1 Do you recognise this?

- ✓ Hard to get an erection
- ✓ Hard to keep it
- ✓ Worse with stress or rush
- ✓ Performance anxiety
- ✓ Less confidence
- ✓ Morning erections sometimes present

“ Is it harder when you are tense or worried?

“ Does performance anxiety make it worse?

3 STEP 3 The loop

- 1 Tension or anxiety.
- 2 The “accelerator” shuts blood flow.
- 3 The erection fails and anxiety rises → more tension.

↻ AND IT STARTS AGAIN

2 STEP 2 What happens in your nervous system

Picture a *hose with the tap half closed*: the water, the blood, does not get through. Your “accelerator” and “brake” are out of balance.



Accelerator

Sympathetic - when it rules (stress, rush), it shuts blood flow.



Brake

Parasympathetic - it is what opens the blood flow of an erection.

An erection depends on the “brake”; with the “accelerator” in charge, the vessels close and it will not come or hold.



Less tension, better blood flow: the foundation.

4 STEP 4 How NESA fits in

Gentle, **non-invasive and painless** microcurrents, with electrodes on the hands and feet, help your nervous system restore the balance between **accelerator** and **brake**.

~ It helps let the “brake” through and improve blood flow, the physiological basis of a healthy erection.

5 STEP 5 With your professional and what you may notice

With your urologist/andrologist

NESA **supports** your urologist or andrologist and, where present, psychological work; it does not replace their assessment or rule out causes that need treating.

What you may notice

- ✓ More ease and consistency
 - ✓ Less performance anxiety
 - ✓ More confidence
- Results vary from person to person.*



Premature ejaculation and your nervous system

When you ejaculate sooner than you would like and it leaves you tense.

1 STEP 1 Do you recognise this?

- ✓ Reaching orgasm very soon
- ✓ Little sense of control soon
- ✓ Tension or frustration
- ✓ Anticipatory anxiety
- ✓ Avoiding intimacy out of fear
- ✓ Worse when nervous

“ Do you feel you have little control over the timing?

“ Does worry make it worse?

3 STEP 3 The loop

- 1 An oversensitive accelerator,
- 2 The reflex fires early,
- 3 More anxiety and alert → more sensitivity.

↻ AND IT STARTS AGAIN

2 STEP 2 What happens in your nervous system

Picture a *trigger that is too sensitive*: it fires too soon. Your nervous system has an “accelerator” and a “brake”, and they are out of balance.

⚡ Accelerator

Sympathetic · too sensitive: it fires the reflex early.

🛑 Brake

Parasympathetic · too little weight: no room to modulate.

Ejaculation is triggered by the “accelerator”; if the system lives on alert, the reflex fires early and is hard to modulate.



4 STEP 4 How NESA fits in

Gentle, **non-invasive and painless** microcurrents, with electrodes on the hands and feet, help your nervous system restore the balance between **accelerator** and **brake**.

~ It helps lower the over-arousal and give the “brake” more weight, to gain room and control.

5 STEP 5 With your professional and what you may notice

💖 With your urologist/andrologist

NESA **supports** your urologist or andrologist and pelvic floor or psychosexual therapy where present.

✓ What you may notice

- ✓ More room and control
 - ✓ Less anxiety
 - ✓ More relaxed sex
- Results vary from person to person.*



Chronic prostatitis and your nervous system

When you have discomfort in the perineum or testicles, or on passing urine, with negative cultures.

1 STEP 1 Do you recognise this?

- ✓ Pain or pressure in the perineum or testicles
- ✓ Discomfort passing urine or ejaculating
- ✓ Needing to pass urine often
- ✓ Pain when sitting
- ✓ Negative cultures
- ✓ Worse with stress

“ Do you have pelvic discomfort that comes and goes with no clear infection?

“ Is it worse when sitting or under stress?

2 STEP 2 What happens in your nervous system

Picture a *tense knot on the floor of the pelvis* that hurts and will not release. Your “accelerator” and “brake” are out of balance.

⚡ Accelerator

Sympathetic - keeps the muscle on guard and shuts blood flow.

⏸ Brake

Parasympathetic - barely engages: the knot will not release.

Much of the pain is **sustained tension** of the pelvic floor plus oversensitivity, often with no infection.

3 STEP 3 The loop

- 1 A pelvic floor **on guard**.
- 2 **Poor blood flow** and oversensitivity.
- 3 More pain and pressure → more guard.

🔄 AND IT STARTS AGAIN



Releasing the pelvic floor knot, without forcing.

4 STEP 4 How NESA fits in

Gentle, **non-invasive and painless** microcurrents, with electrodes on the hands and feet, help your nervous system restore the balance between **accelerator** and **brake**.

~ It helps **release that knot** and improve blood flow, so the area hurts less.

5 STEP 5 With your professional and what you may notice

♥ With your urologist

NESA **supports** your urologist and pelvic floor physiotherapist (relaxation, manual therapy); it does not replace their assessment.

✓ What you may notice

- ✓ Less pain and pressure
 - ✓ Passing urine and ejaculating with less discomfort
 - ✓ Better quality of life
- Results vary from person to person.*



Vaginismus & dyspareunia and your nervous system

When sex or penetration hurts and sometimes the body closes on its own.

1 STEP 1 Do you recognise this?

- ✓ Pain or burning with penetration
- ✓ A feeling of a "wall" or the body closing
- ✓ Tension when anticipating
- ✓ Fear or avoidance of sex
- ✓ Discomfort with tampons or check-ups
- ✓ Pain that reinforces the fear

“ Does sex hurt or does your body close involuntarily?

“ Do you anticipate the pain and tense up more?

2 STEP 2 What happens in your nervous system

Picture *a fist that clenches by itself in defence*: that is how the muscle reacts. Your “accelerator” and “brake” are out of balance.

⚡ Accelerator

Sympathetic · on anticipation, puts the floor into defence.

🛑 Brake

Parasympathetic · does not arrive: the muscle cannot release.

Facing anticipated pain, the “**accelerator**” tightens the pelvic floor by reflex, shuts blood flow and it hurts more.

3 STEP 3 The loop

- 1 Anticipation of pain.
- 2 The pelvic floor in defence (it closes).
- 3 More pain and fear → more defence.

🔄 AND IT STARTS AGAIN



4 STEP 4 How NESA fits in

Gentle, **non-invasive and painless** microcurrents, with electrodes on the hands and feet, help your nervous system restore the balance between **accelerator** and **brake**.

~ It helps come out of defence mode and release the pelvic floor, so the body feels safe and stops closing.

5 STEP 5 With your professional and what you may notice

♥ With your physiotherapist

NESA **supports** your pelvic floor physiotherapist and, where present, psychosexual therapy; the process is gradual and respects your pace.

✓ What you may notice

- ✓ Less pain and fear
 - ✓ More confidence
 - ✓ More comfortable sex, in your own time
- Results vary from person to person.*



Female desire & arousal and your nervous system

When you notice low desire or find it hard to become aroused and lubricate, especially with stress or tiredness.

1 STEP 1 Do you recognise this?

- ✓ Low desire
- ✓ Less lubrication
- ✓ A sense of disconnection from the body
- ✓ Hard to become aroused
- ✓ Worse with stress or fatigue
- ✓ Less enjoyment even with affection

“ Does your desire drop a lot when you are stressed or exhausted?

“ Do you find it hard to connect with your body even when you want to?

3 STEP 3 The loop

- 1 Sustained stress or alert.
- 2 The body switches off the sexual response.
- 3 Less desire and enjoyment → more frustration and alert.

↻ AND IT STARTS AGAIN

4 STEP 4 How NESA fits in

Gentle, **non-invasive** and **painless** microcurrents, with electrodes on the hands and feet, help your nervous system restore the balance between **accelerator** and **brake**.

~ It helps shift from alert mode to calm mode, the physiological basis of healthy desire and arousal.

5 STEP 5 With your professional and what you may notice

♥ With your gynaecologist

NESA **supports** your gynaecologist, pelvic floor physiotherapy and, where present, psychosexual therapy; it does not replace ruling out hormonal or other causes.

✓ What you may notice

- ✓ More calm
 - ✓ More connection with the body
 - ✓ A better sexual response
- Results vary from person to person.*

2 STEP 2 What happens in your nervous system

Picture a *system in "survival mode"* that leaves no room for "rest and pleasure mode". Your "accelerator" and "brake" are out of balance.



Accelerator

Sympathetic - switched on: the body prioritises survival.



Brake

Parasympathetic - it is what opens desire, blood flow and lubrication.

Desire and arousal depend on the **"brake"**; if the **"accelerator"** stays on, the body switches off the sexual response.



From alert mode to rest and pleasure.



Hypertonic pelvic floor and your nervous system

When you feel pressure, twinges or pain when sitting, as if the area were always clenched.

1 STEP 1 Do you recognise this?

- ✓ Pressure or pain in the anus, perineum or on sitting
- ✓ Twinges
- ✓ A feeling the area is always tense
- ✓ Worse by the end of the day
- ✓ Sometimes pain passing urine, stool or during sex
- ✓ Worse with stress

“ Does the area feel permanently clenched or tense?

“ Does it hurt more when sitting or at the end of the day?

3 STEP 3 The loop

- 1 Sustained high tone.
- 2 Tension and poor blood flow.
- 3 More pain and pressure → more tone.

↻ AND IT STARTS AGAIN

2 STEP 2 What happens in your nervous system

Picture a fist clenched for hours that has forgotten how to open. Your “accelerator” and “brake” are out of balance.



Accelerator

Sympathetic - keeps the muscle chronically contracted.



Brake

Parasympathetic - barely engages; the muscle never rests.

The pelvic floor is **hypertonic**: the “accelerator” keeps it contracted, shuts blood flow and traps the pain.



4 STEP 4 How NESA fits in

Gentle, **non-invasive and painless** microcurrents, with electrodes on the hands and feet, help your nervous system restore the balance between **accelerator** and **brake**.

~ It helps **release that sustained tone** and improve blood flow, to break the loop and let the muscle learn to rest.

5 STEP 5 With your professional and what you may notice

With your physiotherapist

NESA **boosts** the work of your pelvic floor physiotherapist (relaxation, manual therapy, relaxation biofeedback).

What you may notice

- ✓ Less pressure and pain
 - ✓ Sitting more comfortably
 - ✓ A pelvic floor that rests
- Results vary from person to person.*

Scientific bibliography

A selection of literature documenting the involvement of the **autonomic nervous system** —vagal tone, heart-rate variability (HRV) and the cholinergic anti-inflammatory reflex— in the symptoms of the conditions addressed. It supports the physiological rationale of the approach; it does not represent a claim of NESA's clinical efficacy for each indication. Ordered by specialty.

Foundations · ANS, HRV & the anti-inflammatory reflex

1. Thayer JF, Lane RD. *A model of neurovisceral integration in emotion regulation and dysregulation*. J Affect Disord. 2000;61(3):201–216.
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Intimate health · Pelvic floor & urology

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2. Charrua A, Pinto R, Birder LA, Cruz F. *Sympathetic nervous system and bladder overactivity*. Nat Rev Urol. 2015;12(2):108–117.
3. Brotto LA, Basson R. *Autonomic and psychological contributions to sexual arousal*. (mindfulness & autonomic tone). Behav Res Ther. 2014.

The references support the physiological relationship between the autonomic nervous system and the symptoms described. Use of NESA under professional supervision; it does not replace treatment or medication.



***We modulate the autonomic nervous system.
Everything else follows.***

Non-invasive neuromodulation of the autonomic nervous system. One root,
many clinical expressions.

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