

<b>TABLE 24.5 Autonomic Neuropathy: Clinical Features, Diagnosis, and Treatment</b>		
<i>Symptoms</i>	<i>Tests</i>	<i>Treatments</i>
<b>Cardiac</b>		
Resting tachycardia, exercise intolerance	HRV, MUGA thallium scan, MIBG scan	Graded supervised exercise, ACE inhibitors, $\beta$ -blockers
Postural hypotension, dizziness, weakness, fatigue, syncope	HRV, supine and standing BP, catecholamines	Mechanical measures, clonidine, midodrine, octreotide, erythropoietin
<b>Gastrointestinal</b>		
Gastroparesis, erratic glucose control	Gastric emptying study, barium study	Frequent small meals, prokinetic agents (metoclopramide, domperidone, erythromycin)
Abdominal pain, early satiety, nausea, vomiting, bloating, belching	Endoscopy, manometry, electrogastrogram	Antibiotics, antiemetics, bulking agents, tricyclic antidepressants, pyloric botox, gastric pacing
Constipation	Endoscopy	High-fiber diet, and bulking agents, osmotic laxatives, lubricating agents
Diarrhea (often nocturnal, alternating with constipation)	None	Soluble dietary fiber, gluten and lactose restriction, anticholinergic agents, cholestyramine, antibiotics, somatostatin, pancreatic enzyme supplements
<b>Sexual Dysfunction</b>		
Erectile Dysfunction	H&P, HRV, penile-brachial pressure index, nocturnal penile tumescence	Sex therapy; psychological counseling; 5'-phosphodiesterase inhibitors; PG E1 injections, devices, or prostheses
Vaginal Dryness	None	Vaginal lubricants
<b>Bladder Dysfunction</b>		
Frequency, urgency, nocturia, urinary retention, incontinence	Cystometrogram, postvoiding sonography	Bethanechol, intermittent catheterization
<b>Sudomotor Dysfunction</b>		
Anhidrosis, heat intolerance, dry skin, hyperhidrosis	Quantitative sudomotor axon reflex, sweat test, skin blood flow	Emollients and skin lubricants, scopolamine, glycopyrrolate, botulinum toxin, vasodilators
<b>Pupillomotor and Visceral Dysfunction</b>		
Visual blurring, impaired adaptation to ambient light, Argyll-Robertson pupil	Pupillometry, HRV	Care with driving at night
Impaired visceral sensation: silent myocardial infarction, hypoglycemia unawareness		Recognition of unusual presentation of myocardial infarction, control of risk factors, control of plasma glucose levels

*Key:* ACE= angiotensin-converting enzyme; BP= blood pressure; H&P= history and physical examination; HRV= heart rate variability; MI= myocardial infarction; MIBG= metaiodobenzylguanidine; MUGA= multigated angiography; PG= prostaglandin

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