

## Reasons an Endocrinologist should consider HRV testing with the PD2i Analyzer™ in patients with DM.

As part of the comprehensive management of a patient with DM, the doctor would want to evaluate the patient for disease complications, including ANS dysfunction, so as to better advise the patient and manage these potential complications.

**Hypoglycemic unawareness:** The patient with autonomic impairment is less likely to experience the warning symptoms of sweating or rapid heart rate before developing a dangerously low blood glucose level that could cause injury to themselves or others. You can make sure the patient and the family understands this potential problem. You can justify recommendation of liberal glucose testing and consider less than “tight control” as a goal.

**Pre-operative events:** The peri-operative cardiac morbidity and mortality in diabetics with cardiac autonomic neuropathy (CAN) are increased 2-3 times over non-diabetics. Additionally, those patients identified as having autonomic dysfunction can benefit from the anesthesiologist recognizing that they will need more vasopressor support and are more prone to hypothermia under anesthesia. This information should be relayed to the primary care provider or cardiologist who will be providing surgical clearance exams.

**Identify the patient at high risk for silent MI:** Because of the reduced appreciation of cardiac ischemic pain in persons with CAN, underlying cardiac disease may project minimal symptoms. Silent MI is twice as prevalent in diabetics with CAN. Vague symptoms, such as cough, unexplained nausea, unexplained dyspnea, new fatigue or subtle ECG changes, should prompt the endocrinologist to refer the patient for an ischemia evaluation as this diabetic subset also has a 2x increase in mortality with MI. In summary, silent MI is twice as common and twice as fatal if a diabetic has CAN.

**Preventative counseling for orthostatic hypotension:** Persons with CAN should be educated that they are at risk of excessive blood pressure drops upon standing. Symptoms may include dizziness, weakness, and vision changes or even fainting. Through the use of a handout (provided), they can be advised to take extra precautions with showers and hot baths, during warm weather, after exercise and with fevers. The prescriber should be cautious with anti-hypertensives, anti-anginals, antidepressants and diuretics that may worsen the symptoms.

**Physician input on exercise programs:** Persons with CAN need to use their “perceived” level of exertion to guide their intensity of exercise, not heart rate. Many persons with CAN are unable to reach the target percentage of their age adjusted maximum heart rate. Attempting to do so might induce a cardiac event or syncope. The physician should consider stress testing in these at risk patients before endorsing an exercise plan.

**Sudomotor Neuropathy:** Nerve damage may impair sweat gland function and can cause abnormal sweating. The patients should be advised that they are more prone to heat exhaustion or heat stroke in routine outdoor situations such as gardening or social events. Creams to the feet should be encouraged as excessively dry skin is prone to cracking and infection.

**B-Blocker toxicity:** Sympathetic depression on HRV testing in association with ejaculatory impairment, depression, inappropriate fatigue or orthostasis should prompt one to consider B-blocker dose reduction.

**Cardiac Autonomic Neuropathy is manifested as the loss of heart rate complexity on PD2i® testing.** This can be improved with weight loss, the b-blockers in the setting of heart failure, ACE inhibitor use, as well as the addition of spironolactone to ACE/lasix/digoxin therapy in congestive heart failure patients.

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# Recommended PD2i Analyzer™ Staffing and Revenue Projections Based on Test Volume

<u>Staffing Option</u>	<u>Weekly Costs and Test Capacity</u>	<u>Annual Costs</u>
Part-time employee* 8am - 1 pm, M-F No benefits	30 hr/wk @ \$10/hr = \$300/wk  50 tests per week	\$15,600.00

\*This is a very desirable position for a parent of school age children.  
Consider owner or employee family members.  
The test can easily be administered by non-medical personnel.

Projected PMT\*\* - Analysis Fee - Consumables = \$99 per test income, less staffing costs

\*\*Adjust the spreadsheet below to give you a reimbursement scenario based upon the payer mix of your practice demographics.

Tests per day	Tests per week	Annual Site Revenue Adjusted for Payer Mix*
2	10	\$51,480.00
3	15	\$77,220.00
4	20	\$102,960.00
5	25	\$128,700.00
6	30	\$154,440.00
8	40	\$205,920.00
10	50	\$257,400.00
12	60	\$308,880.00
14	70	\$360,360.00
16	80	\$411,840.00

CPT	SC Medicaid	SC Medicare	Cigna	State BC/BS	BC/BS
95921	\$58.26	\$69.09	\$65.55	\$77.00	\$77.00
95922-52**	\$50.00	\$60.00	\$60.00	\$82.00	\$74.00
93040	\$10.58				
99211*	\$14.96	\$17.61			
Total	\$133.80	\$146.70	\$125.55	\$159.00	\$151.00
100.00%	30.00%	45.00%	10.00%	7.50%	7.50%
	\$40.14	\$66.02	\$12.56	\$11.93	\$11.33
					<b>\$141.96</b>

\*Billable if not seen by the physician that date - Physician Supervision of a Service.

\*\*Estimated based on modifier effect on other codes - remittances pending.

Note - 93000-59 will also pay \$18.52 for a 12 lead ECG if this is desired while testing.