

Understanding Parkinson's Gastrointestinal & Urinary Dysfunction



At first glance, Parkinson's disease (PD) appears to be a very confined condition, characterized by problems with movement such as tremor, muscle stiffness and slowness in movement. Upon further inspection, we find that Parkinson's is not limited to impairment of movement and that it has numerous clinical features that have little or nothing to do with movement.

Among these "nonmotor" features of PD are disturbances within the autonomic nervous system — that is, the part of the nervous system that controls "automatic" bodily functions such as heart rate, blood pressure, sweating, sexual function and both gastrointestinal and urinary function. This article will focus on these latter two problems, which are often among the most serious and complex issues that people with PD face.

Stomach Problems

Impaired ability to empty the contents of the stomach, called gastroparesis, is a potential gastrointestinal complication of Parkinson's. This may produce a bloated sensation and cause people to feel full even though they have eaten very little. Sometimes nausea may develop.

Failure of the stomach to empty in a timely fashion may also impair or delay the effectiveness of PD medications, especially levodopa, since levodopa is absorbed from the small intestine and cannot get to its destination if it is trapped in the stomach.

Treatment of gastroparesis in Parkinson's has not been extensively studied. Domperidone is an effective medication, but unfortunately it is not available in the US. Treatment routes that bypass the stomach, such as transdermal drug delivery by skin patch, may become available in the near future. Another potential treatment under investigation involves a form of levodopa designed to be delivered directly into the small intestine via a feeding tube.

Bowel Dysfunction

The most widely recognized gastrointestinal problem in Parkinson's disease is impairment of bowel function. This can be one of two kinds. The better known is decreased frequency of bowel movements, or constipation. The current definition of constipation is fewer than three movements

per week. Estimates of the number of people with PD who experienced this difficulty range from 20 to 77 percent. The decreased bowel movement frequency in PD is due to sluggish travel of material through the colon. As many as 80 percent of people with Parkinson's may experience this slow rate of colon transit.

Treatment of slow-transit constipation in PD involves measures designed to increase colonic motility. The first step is to increase both fluid and fiber intake. Current recommendations suggest that daily fiber intake should be in the range of 20–35 grams, but the average American only consumes around 14 grams. Fiber intake can be increased through dietary measures or fiber supplements.

If increasing fiber and fluid intake is not adequately effective, the next step can be to add a stool softener. If the problem still persists, the doctor may suggest initiation of an agent that draws fluid into the colon, such as lactulose. If that does not help with the problem, daily doses of a colon cleansing agent such as polyethylene glycol (MiraLAX®) may be employed. And if all else fails, it may be necessary to resort to enemas — but only under the supervision of a physician. We need to find new treatments to increase the speed of colon transit, and studies investigating some potential agents are underway.

The other, and less well-recognized, type of impaired bowel function in Parkinson's disease is

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difficulty with the act of defecation itself. Typically, this problem manifests itself in undue straining and sometimes incomplete emptying. Research studies show that this problem is actually more common than decreased bowel movement frequency. Difficulty with the act of defecation is due to failure of the rectal sphincter muscles to relax in a coordinated fashion when the bowel movement is being attempted — perhaps due to spasm or dystonia affecting these muscles.

The medications described earlier to hasten colon transit are of no value in addressing this problem, and could even worsen matters by rushing more fecal material to a rectal “door” that does not want to open. No proven treatment for this exists, although keeping stool soft seems logical. There have been some suggestions that apomorphine injections just prior to attempting a bowel movement may be helpful, but formal studies of this approach have not been done. Botulinum toxin injections into the sphincter muscles have also been successfully employed in small numbers of people living with Parkinson’s.

Bladder and Urinary Difficulties

Bladder or urinary difficulties are also common in PD. Older research studies indicated the presence of impaired urinary function in slightly over 70 percent of people with PD, although recent studies suggest a more modest frequency of 27 to 39 percent. Despite the frequency of urinary dysfunction, actual urinary incontinence is relatively uncommon. Troublesome incontinence develops in only about 15 percent of individuals.

Unlike bowel dysfunction, which may precede the development of motor symptoms in people with PD, urinary dysfunction typically does not become evident until the later stages of the disease. The primary function of the bladder is twofold — to store urine as it is formed and then to empty the urine when it is convenient and socially acceptable to do so. With PD, problems can emerge in both areas.

The most common urinary symptoms experienced by people with Parkinson’s are first, the need to urinate extremely frequently, and second, difficulty in delaying urination once the need is perceived, creating a sense of urinary urgency.

These symptoms usually indicate an irritable or overactive bladder that is signaling the brain that it is full and needs to empty when, in fact, it really is not. In addition to urinary frequency and urgency during the daytime, individuals with this problem also may have to get up multiple times during the night to urinate.

Medications that work to block or reduce bladder overactivity can be useful in treating this form of bladder dysfunction. A variety of medications are available for this purpose, including older medicines such as oxybutynin and tolterodine, and newer medications such as solifenacin and darifenacin.

Impairment of bladder emptying is a less frequent but still troublesome feature of urinary dysfunction in Parkinson’s. This type of dysfunction may be produced by delay or difficulty in relaxation of the urethral sphincter muscles, which is necessary to allow the bladder to empty. This can result in hesitancy in initiating urination, difficulty in generating a stream and incomplete emptying of the bladder. Dystonia of the urethral sphincter has also been described.

The medications listed above are not helpful for this type of bladder dysfunction and may actually aggravate the difficulty. Medications such as bethanechol may be helpful but intermittent self-catheterization is sometimes necessary. Before initiating these, a doctor must make sure that some unrelated process, such as an enlarged prostate, is not responsible for the problem.

The Bottom Line

Both gastrointestinal and urinary problems are frequent features of PD. Awareness of their existence and recognition of their presence are the first necessary steps to adequate management. People with Parkinson’s should not hesitate to bring these problems to the attention of their physicians, especially since effective treatment is often available.

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- Nutrition and PD
- Physical Therapy and PD

If you have or believe you have Parkinson’s disease, then promptly consult a physician and follow your physician’s advice. This publication is not a substitute for a physician’s diagnosis of Parkinson’s disease or for a physician’s prescription of drugs, treatment or operations for Parkinson’s disease.

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