

Essential diet & nutrition considerations for people living with PD

Richelle Flanagan

Dietitian, MINDI, PD Advocate





KNOWLEDGE

Richelle Flanagan

Parkinson's disease: The case for greater nutritional care

Those with Parkinson's disease would benefit from better nutritional care and access to a multidisciplinary care team that includes a dietitian

MENTAL AND NEUROLOGICAL HEALTH

is recognised as the fifth most common non-communicable disease (NCD) by the United Nations and as such should receive

the majority of PD occurs in those older than 65, up to 10% develop the disease in their 40s and younger. Diagnosis under 50 is classed as early-onset PD, those aged

non-motor symptoms and ultimately improve quality of life.

Through my own journey, that of my PD friends, and my research, I have come

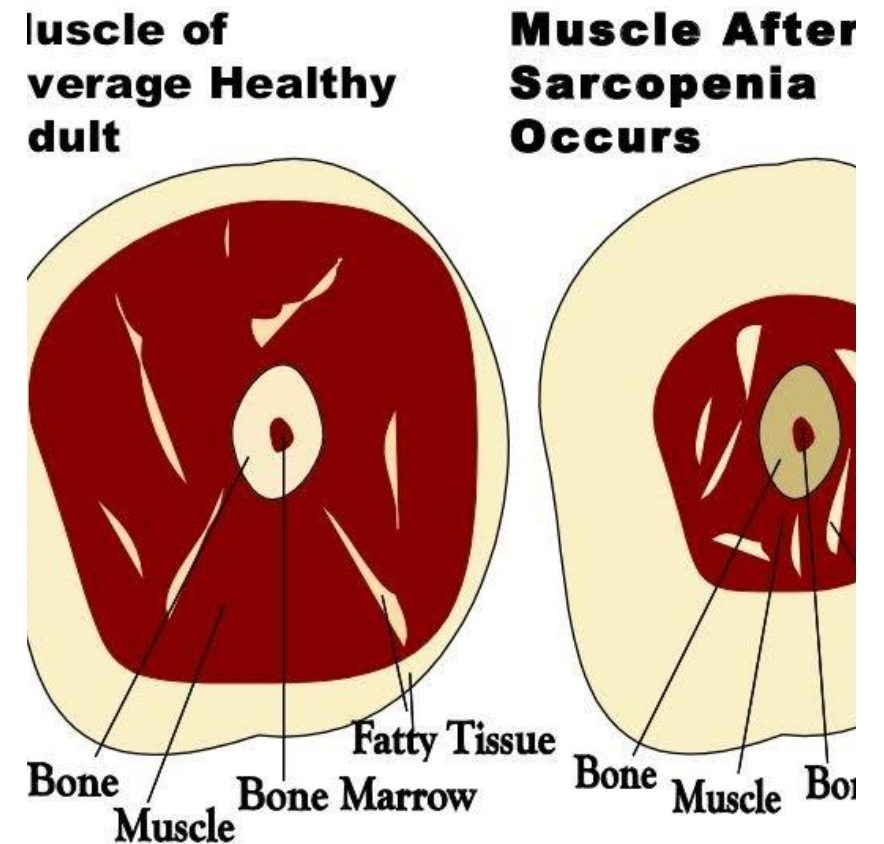


Agenda

- **Weight loss**
- **Weight gain**
- **GI/Bone**
- **Diet & Nutrition considerations**

Weight Loss PD research

- Decreasing body mass index (BMI) associated with higher (worse) motor & total UPDRS scores over time
- Clinically significant weight loss within 1st year independently associated with dependency, dementia, & death
- Prevalence of malnutrition can affect up to 60% of PwP; whilst 25% malnourished
- A recent study found 56% PwP sarcopenic & 47% probable sarcopenia.
- Fall frequency high in those with sarcopenia.



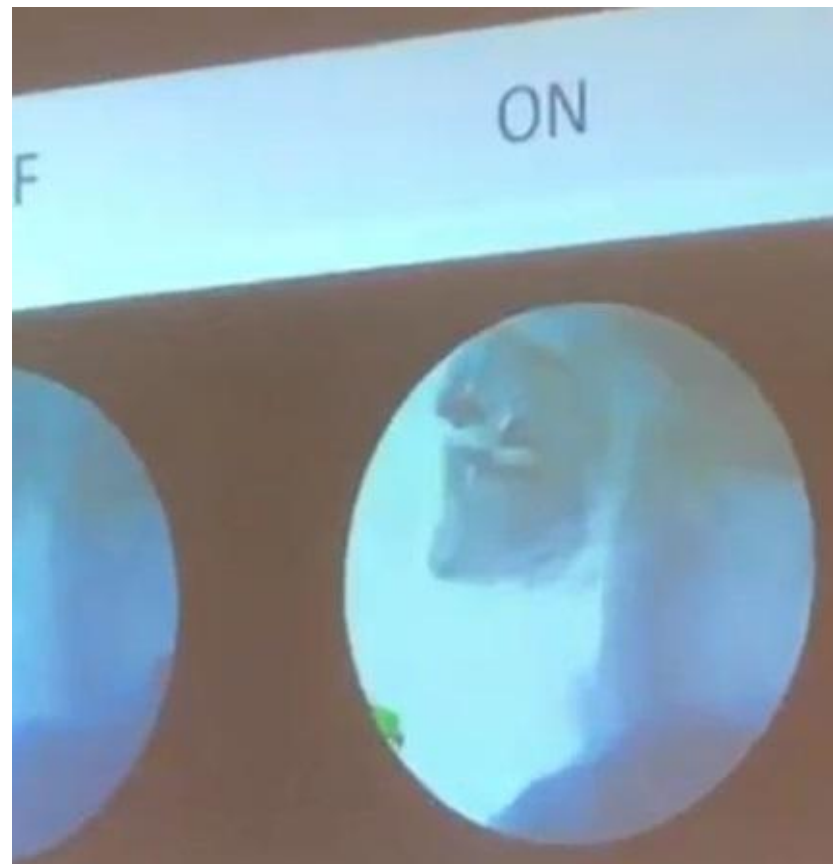
Weight Loss PD research

- 75% to 90% some loss of smell
- Up to 54% have reduced taste sensitivity
- Dyskinesia, rigidity, tremor may affect weight loss
- Affects ability to prepare/cook/eat food



Weight loss PD research

- 50% -80% dysphagia in early stages & 95% in late stages
- Pharyngeal/oesophageal dysfunction appears before clinical manifestations of dysphagia in early- stage PD
- 4/5 PwP do not realise they have a swallow problem
- 35% subjective (patient) vs 82% objective (clinician)



Dublin PAI PD Survey result



ONLY 4 out of 10 weighed by their GP or neurologist.

60% of respondents have lost weight unintentionally

30-40% have difficulties with either holding utensils or cutting/preparing food.

25% experience problems with choking or coughing when swallowing food.

Weight Gain PD research

- Overweight & obesity due to issues such as Impulse Control Disorder
- Eating disorder 27% vs 13% control
- Food addiction 24% PD (50-70 y.o); higher in women (53% vs 37% control)
- Weight gain after DBS reduces energy expenditure by reducing dyskinesias or tremors



Gastrointestinal PD research

- ~ 90% GI symptoms.
- 46-77% report constipation.
- 70% to 100% gastric emptying delay.



Dublin PAI PD Survey result

Most common bowel problems were constipation, wind and/or incomplete bowel movements.

6 in 10 had constipation.

Bone PD research

- Prevalence of osteopenia/osteoporosis > than age matched controls (Higher in women)
- Osteoporotic fractures in women (51.7 PD vs 11.3% control)
- Bone Mineral Density lower in both, more so in women
- Insufficient Vit D levels (50%)
- Inadequate Vit D intakes (56%)



Dublin PAI PD Survey result



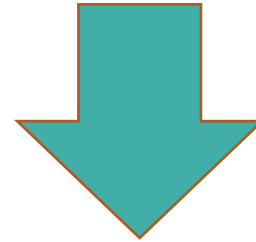
Most common bowel problems were constipation, wind and/or incomplete bowel movements.

6 in 10 had constipation.

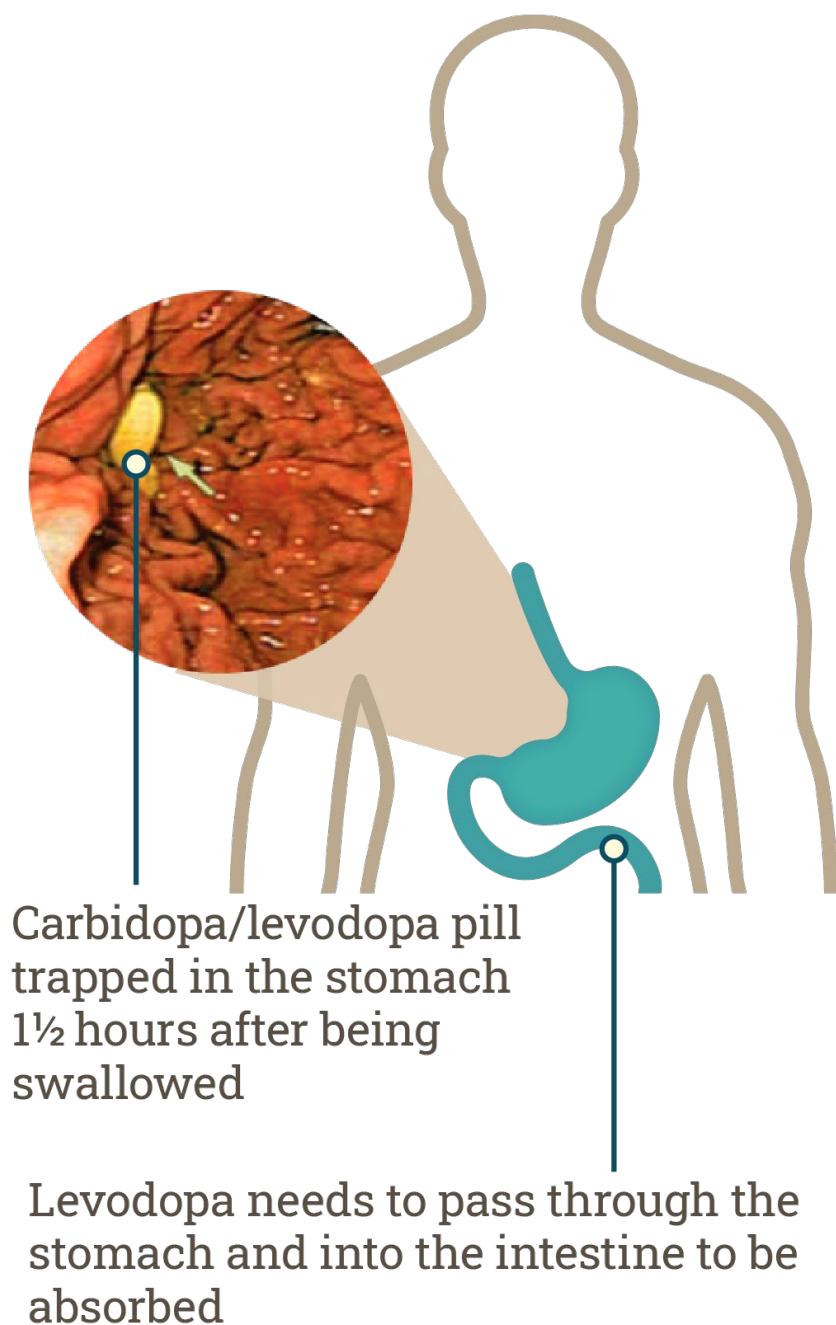
50% were not taking a **Vitamin D** supplement

Meal Composition

- Large meal high in fat & protein can slow down digestion in stomach



Slows medication reaching intestines
where absorbed



Meal Timing

- ❑ Protein can interfere with Levodopa absorption
- ❑ Take Levodopa 30-60 mins before meals OR 60-120 mins after meals
- ❑ Avoid drinking milk with medication
- ❑ Avoid large protein heavy meals

Levodopa + Carbidopa meal spacing for best results







2/3

(or more)
vegetables,
wholegrains
and pulses



1/3

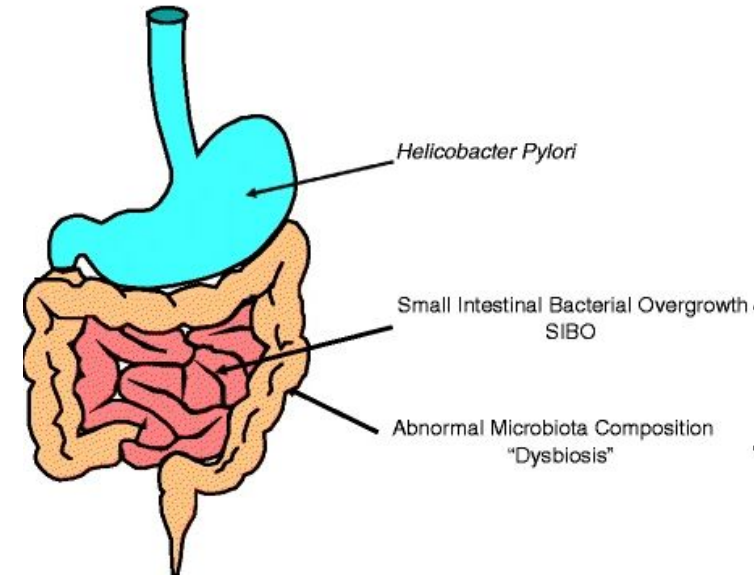
(or less)
animal foods

Mediterranean Diet *Pyramid*



Gut microbiome

	Interferes with LD absorption	Vitamin B 12 Deficiency	Iron Deficiency	Vitamin D Deficiency
H Pylori	✓	⬆ Risk	⬆ Risk	⬆ Risk



Gut microbiome

	Interferes with LD absorption	Vitamin B 12 Deficiency	Iron Deficiency	Vitamin D Deficiency
H Pylori	✓	⬆ Risk	⬆ Risk	⬆ Risk
Small Intestinal Bacterial Overgrowth (SIBO)	✓	✓		Possible risk

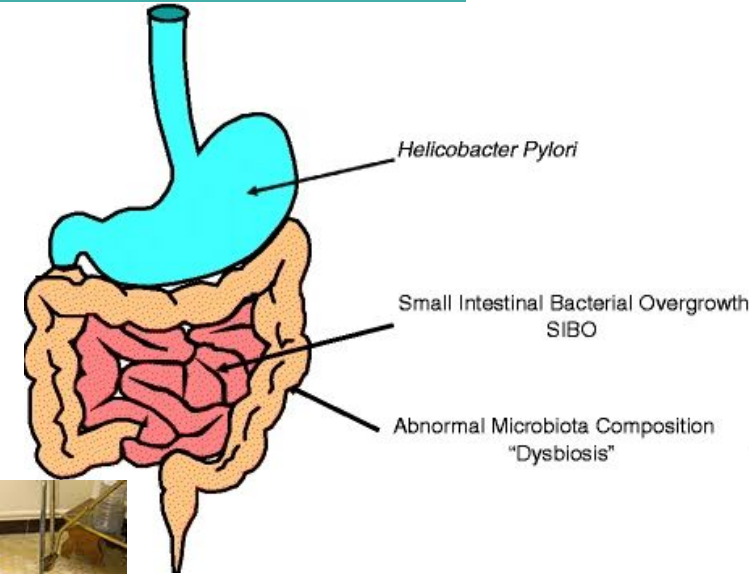


Table 5. Comparison of the UPDRS, PDQ-39, HADS and MNA scores in baseline and six-week control of the patients with abnormal nutritional status (n:65).

Variable	Baseline (mean ± SD)	Six-week control (mean ± SD)	p-value
UPDRS—Part I—mental	7,01 ± 3,08	4,56 ± 1,28	<0.001
UPDRS—Part II—ADL	18,22 ± 4,25	15,32 ± 3,83	0.034
UPDRS—Part III—motor	20,46 ± 7,89	17,53 ± 5,01	0.040
UPDRS—Part IV—complications	7,18 ± 2,82	3,70 ± 1,11	<0.001
UPDRS—Total	50,01 ± 14,82	40,98 ± 11,27	<0.001
PDQ-39—Mobility	32,49 ± 5,21	22,11 ± 4,21	<0.001
PDQ-39—Activities of Daily Living	34,80 ± 5,14	20,67 ± 4,27	<0.001
PDQ-39—Emotional Well-being	33,31 ± 3,87	18,19 ± 2,84	<0.001
PDQ-39—Stigma	40,14 ± 5,48	19,30 ± 3,17	<0.001
PDQ-39—Social Support	22,27 ± 3,87	12,96 ± 2,74	<0.001
PDQ-39—Cognition	29,53 ± 5,91	20,17 ± 4,21	<0.001
PDQ-39—Communication	26,27 ± 3,28	17,81 ± 2,81	<0.001
PDQ-39—Bodily Discomfort	32,08 ± 5,27	15,74 ± 3,72	<0.001
HADS—Anxiety	14,88 ± 3,82	9,07 ± 3,73	<0.001
HADS—Depression	14,09 ± 3,17	9,20 ± 3,16	<0.001
Body Mass Index (kg/m ²)	22,1 ± 4,6	24,0 ± 3,8	0.031
Mid-arm Circumference	23,2 ± 3,2	24,1 ± 3,6	0.641
Calf Circumference	30,8 ± 3,7	31,1 ± 3,3	0.703
MNA—total	16,85 ± 2,54	22,37 ± 3,88	<0.001

SD: Standard Deviation, UPDRS: Unified Parkinson's Disease Rating Scale, HADS: Hospital Anxiety and Depression Score, PDQ-39: 39-item PD questionnaire, MNA: Mini Nutritional Assessment, ADL: Activities of daily living.

Ongun et al, 2018

<https://doi.org/10.1371/journal.pone.0205100.t005>

- 60-68 y.o.
- 67.7% abnormal nutritional status
- 25% malnourished; 42% at risk
- Poor nutritional status affected depression &
- 6 week nutrition intervention with dietitian & nutrition nurse
- ONS for malnourished
- Fibre 30-35g/day

Does
Nutrition
Intervention
work?

Does Nutrition Intervention work?

- Nutritional assessment should be a standard approach for care of PwP
- Further research needed on the role of nutrition in the progression of neurodegenerative diseases...
- **However.....**disregarding the nutritional features in PD theoretically worsens disease process & quality of life for PwP
- **Do we wait or do we act?**

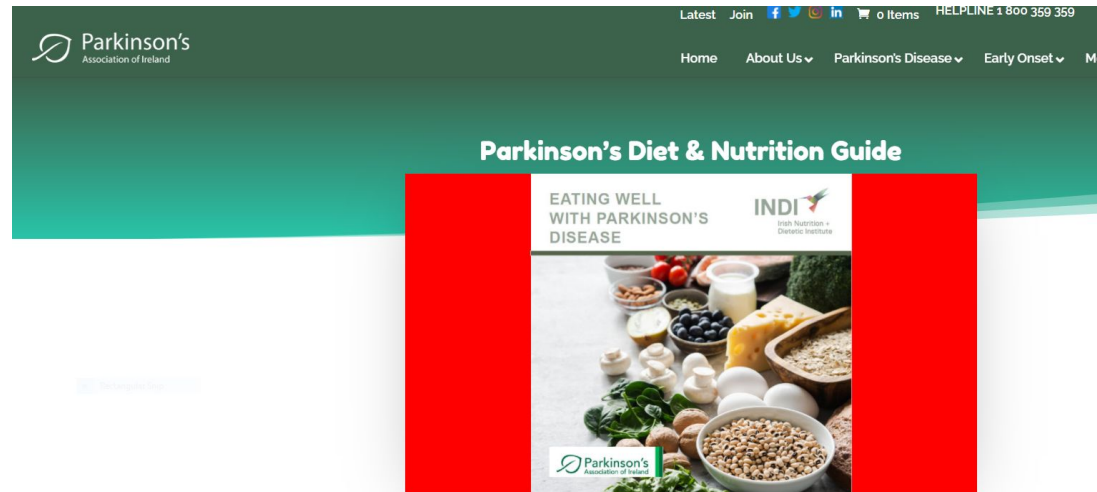
Dublin PAI PD Survey result

- **8 out of 10** - neurologist had never asked about their diet.
- **9 out of 10** GP had never asked about their diet.
- **> 8 out of 10 out of ten never been referred to a dietitian** since their diagnosis.
- **1 in 10** asked to be referred to a dietitian.

Key Actions for PwP

- Ask for referral to Speech & Language Therapist to assess swallow
- Ask for referral to Dietitian (ideally one with neurology experience)
- Ask for referral to Occupational Therapist if you have difficulties cooking/eating
- Ask for healthcare team to check Vitamin D, Vitamin B12, Iron, Folate
- Ask for review of your bone health and possibly a dexa scan
- Check your weight for loss/gain
- Eat like a Mediterranean
- Time medication separate to meals
- Aim for daily bowel movement
- Use a food diary to monitor symptoms in relation to medications and food
- Discuss options such as H.Pylori/SIBO or protein restricted diets in relation to medication fluctuations with your team

Resources



In partnership with

PARKINSON'S^{UK}
CHANGE ATTITUDES.
FIND A CURE.
JOIN US.

*Best practice guidance for dietitians on
the nutritional
management of Parkinson's*

Parkinson's Disease and Diet: A Practical Guide

Written by Rachel Dolhun, MD

The Michael J. Fox Foundation for Parkinson's Research

Reviewed by Christine Ferguson, MS, RD, LD

The University of Alabama,
Department of Human Nutrition and Hospitality Management



ESPEN guideline clinical nutrition in neurology

Rosa Burgos^{a,*}, Irene Bretón^b, Emanuele Cereda^{c,d}, Jean Claude Desport^e,
Rainer Dziewas^f, Laurence Genton^g, Filomena Gomes^h, Pierre Jésus^e,
Andreas Leischkerⁱ, Maurizio Muscaritoli^j, Kalliopi-Anna Poulia^k, Jean Charles Preiser^l,
Marjolein Van der Marck^m, Rainer Wirthⁿ, Pierre Singer^o, Stephan C. Bischoff^p

