

Medical Treatment of Non-motor Symptoms in Parkinson's

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Non-motor Symptoms

1. Autonomic
2. Sleep
3. Mood and thinking
4. Other important things



Non-motor Symptoms

- Not everyone will have all symptoms!
- Identification and treatment can improve quality of life

“It is tough to make predictions,
especially about the future.”

—Yogi Berra



Medications for Motor Symptoms

Levodopa

- Carbidopa/ levodopa (Sinemet)
- Carbidopa/levodopa controlled-release tablets (Sinemet CR)
- Carbidopa/ levodopa oral dissolving tablets (Parcopa)
- Carbidopa/levodopa extended-release capsules (Rytary*)
- Levodopa inhalation (Inbrija*)

Dopamine agonists

- Pramipexole (Mirapex)
- Pramipexole extended-release tablets (Mirapex ER)
- Ropinirole (Requip)
- Ropinirole extended-release tablets (Requip XL)
- Rotigotine (Neupro patch*)
- Apomorphine injections (Apokyn*)
- Apomorphine sublingual (Kynmobi*)

MAO-B Inhibitors

- Selegiline (Eldepryl)
- Rasagiline (Azilect)
- Safinamide (Xadago*)

COMT Inhibitors

- Entacapone (Comtan)
- Tolcapone (Tasmar)
- Carbidopa/levodopa/ entacapone (Stalevo)
- Opicapone (Ongentys*)

Amantadine

- Amantadine (Symmetrel)
- Amantadine extended release tablets (Osmolex ER*)
- Amantadine extended release capsules (Gocovri*)

Adenosine Antagonists

- Istradefylline (Nourianz*)

Anticholinergics

- Trihexyphenidyl (Artane)
- Benztropine (Cogentin)

**Asterisks indicate medications that are available only as the brand name medication*

Medications for Nonmotor Symptoms



DAVIS PHINNEY
Foundation For Parkinson's

every victory counts®

- **Autonomic Symptoms**

- Constipation
 - Docusate
 - Polyethylene glycol
 - Milk of magnesia
 - Probiotics
 - Bisacodyl
 - Senna
 - Bisacodyl suppository
 - Fleets Enema
 - Linactolide
 - Lubiprostone
 - Naloxegol
- Nausea
 - Ondansetron
 - Additional carbidopa
- Drooling
 - Glycopyrrolate
 - Atropine eye drops under the tongue
 - Botulinum toxin injections

- Overactive Bladder

- Tolterodine
- Trosium
- Solifenacin
- Oxybutynin
- Mirabegron

- Erectile dysfunction

- Sildenafil
- Tadalafil
- Vardenafil

- Orthostatic hypotension

- Fludrocortisone
- Midodrine
- Droxidopa
- Pyridostigmine

- **Sleep Symptoms**

- Insomnia

- Melatonin
- Clonazepam
- Trazodone
- Mirtazapine

- Daytime Sleepiness

- Caffeine
- Methylphenidate
- Modafinil

- Restless legs

- Dopamine agonists
- Gabapentin
- Clonazepam
- Opiates

- REM sleep behavior disorder

- Melatonin
- Clonazepam

- **Mood and Thinking Symptoms**

- Depression

- Dopamine agonists
- Fluoxetine
- Sertraline
- Citalopram
- Escitalopram
- Paroxetine
- Bupropion
- Venlafaxine
- Duloxetine

- Trazodone

- Mirtazapine

- Anxiety

- Many/all of the same meds used for depression
- Clonazepam

- Cognitive Impairment

- Rivastigmine
- Donepezil
- Memantine

- Hallucinations

- Quetiapine
- Pimavanserin
- Clozapine

- **Other Important Symptoms**

- Pain

- Gabapentin
- Pregabalin
- Botulinum toxin injections

- Seborrheic dermatitis

- Selenium sulfide
- Pyrithione zinc

Managing Non-Motor Symptoms

- Many symptoms have possible nonmedication as well as medication treatment options



Non-motor Symptoms

1. Autonomic

- Gut
- Bladder
- Blood Pressure

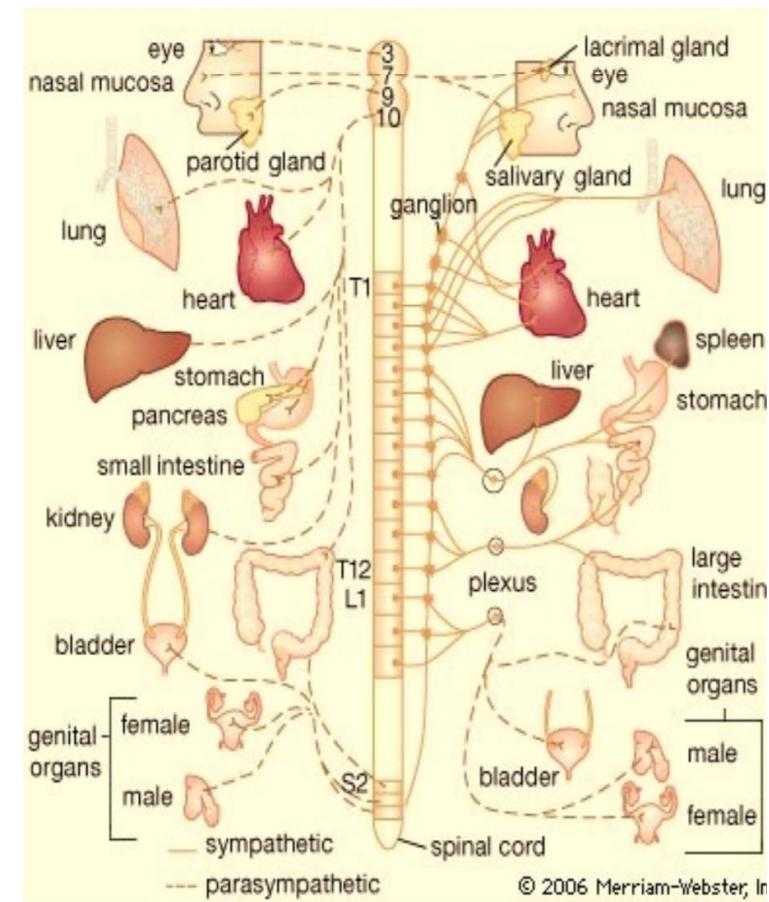
2. Sleep

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Autonomic Symptoms

- Autonomic nervous system
 - Autonomic = think “automatic”
 - Controls automatic, involuntary functions like digestion
- Parkinson's can affect the autonomic nervous system in several ways



Gut Symptoms - Constipation

- **Extremely** common in Parkinson's
 - Hard or infrequent bowel movements
 - Can impair effects of Parkinson's meds



Constipation Treatment

- Exercise
- Hydration
 - 64 ounces/day
 - Warm drink in the morning
- 30+ grams of fiber / day
- Probiotics
- Sugar-free gum



Constipation Medications

- Stool softeners and laxatives
 - “The mush and the push!”
- Stool softener
 - Docusate (Colace)
- Laxatives
 - Polyethylene glycol (Miralax)
 - Milk of magnesia
 - Daily or as needed



Constipation Medications

- Stimulant Laxatives
 - Consider if 2-3 days with no BM
 - More suited for as-needed use than daily use
 - Bisacodyl (Dulcolax)
 - Senna (Senokot)- tea or pill form
- Bisacodyl suppository
- Fleets Enema



Constipation Medications

- Prescription medications
 - Linactolide (Linzess)
 - Lubiprostone (Amitiza)
- If on opiates:
 - Naloxegol (Movantik)
- GI consultation

Gut Symptoms - Nausea

- Nausea is more likely if constipated
- Nausea is a common possible side effect of dopamine medications
- Treatment
 - Ondansetron (Zofran)
 - Additional carbidopa (Lodosyn)
 - *Avoid Reglan, Compazine, Phenergan*

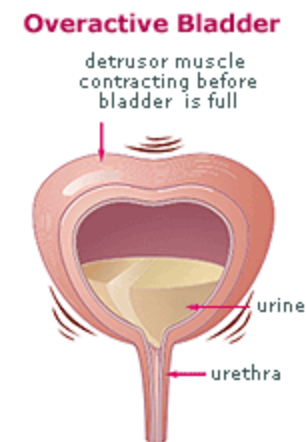
Gut Symptoms - Drooling

- Caused by decrease in swallowing
- To treat, increase swallowing or decrease saliva
 - Sugar-free chewing gum or hard candy
 - Prescription medications e.g. glycopyrrolate
 - Atropine eye drops under the tongue
 - Botulinum toxin injections



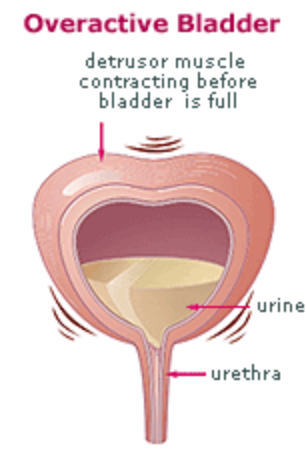
Bladder Symptoms – Overactive Bladder

- Sensation of needing urinate frequently/suddenly
- Medications
 - Anticholinergics
 - Several options such as tolterodine (Detrol), trospium (Sanctura), solifenacin (Vesicare)
 - Oxybutynin is least expensive but more likely to cause side effects
 - Possible dry eyes, dry mouth, constipation, fuzzy-headedness



Bladder Symptoms – Overactive Bladder

- Medications
 - Beta-3 Agonist
 - Mirabegron (Myrbetriq)
 - Likely fewer side effects
 - Possible hypertension
 - Brand name only
- Urology consultation



Autonomic - Erectile Dysfunction

- Consider impact of beta blockers and antidepressants
- Oral Medications
 - Sildenafil (Viagra)
 - Tadalafil (Cialis)
 - Vardenafil (Levitra)
 - Caution as can cause low blood pressure
- Urology consultation

Blood Pressure Symptoms – Orthostatic Hypotension (OH)

- OH= blood pressure goes down when you stand up
- Light-headedness, even fainting
- Coat hanger pain, fogginess
- How to check for OH:
 - Lie down for five minutes, check blood pressure
 - Stand up for two minutes, check blood pressure



Blood Pressure Symptoms – Orthostatic Hypotension

- Re-evaluate any blood pressure medications with doctor



“We found a bunch of these clogging your arteries. They’re cholesterol pills.”

Blood Pressure Symptoms – Orthostatic Hypotension

- Stand up slowly
- Compression stockings (20-30 mmHg)
- Stay hydrated (64 ounces/day)
- Sodium-rich foods (pickles, peanuts)



Blood Pressure Symptoms – Orthostatic Hypotension

- Fludrocortisone (Florinef)
 - “Fills the tank”- increases salt and fluid retention
- Midodrine
 - “Squeezes the tank”- constricts blood vessels
- Droxidopa (Northera)
 - Synthetic precursor of norepinephrine
- Pyridostigmine (Mestinon)
 - Increases acetylcholine chemical messenger

Non-motor Symptoms

1. Autonomic

3. Mood and thinking

2. Sleep

4. Other important things

- Insomnia
- Daytime sleepiness
- Restless legs
- REM Behavior Disorder

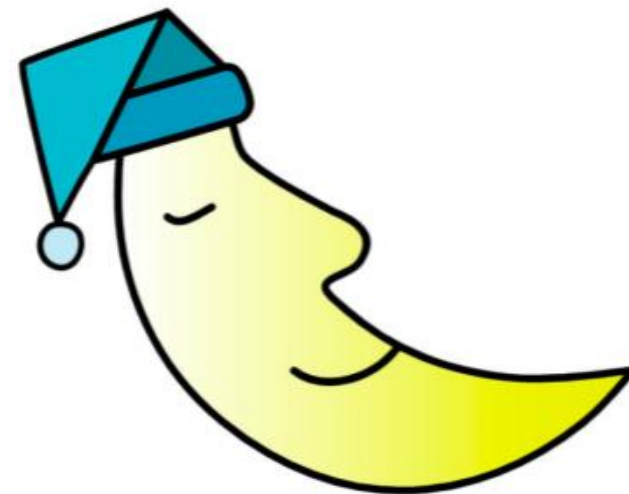
Sleep – Insomnia

- Difficulty falling asleep
- Difficulty staying asleep (common in PD)
- May be due to:
 - Stiffness
 - Difficulty repositioning
 - Tremor



Insomnia – Treatment

- Good sleep hygiene!
 - Exercise and light exposure during the day
 - Relaxing bedtime routine
 - No clock watching!
 - Get up and try again
 - Consistent wake-up time 7 days per week



Insomnia Treatment – Medications

- Melatonin
- Clonazepam
- Sedating anti-depressants
 - Trazodone, mirtazapine
- Avoid diphenhydramine (Benadryl, Tylenol PM, Advil PM)
 - Can cause confusion
- Avoid Ambien, Lunesta
 - Can exacerbate dream-enactment behavior

Sleep – Daytime Sleepiness

- Increased need for sleep during the day
- Sudden, uncontrollable need for sleep during daytime hours



Daytime Sleepiness – Treatment

- Address insomnia if present
- Consider test for sleep apnea
- Rest and naps are OK
- Re-evaluate Parkinson's medications
 - Some are more likely to cause sleepiness

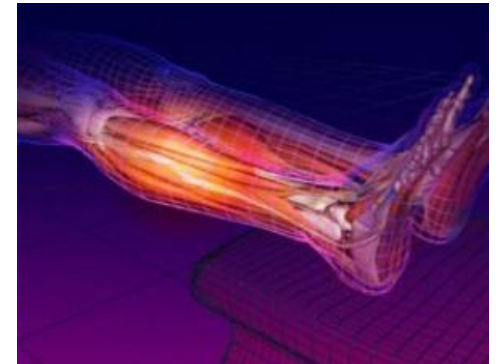


Daytime Sleepiness – Medications

- Caffeine early in day
- Stimulant medications
 - Methylphenidate (Ritalin)
 - Modafinil (Provigil)

Sleep – “Restless Legs”

- Restless Legs Syndrome (RLS)
 - Uncomfortable sensation with urge to move
- Periodic Limb Movements (PLMs)
 - Legs jerking during drowsiness or sleep

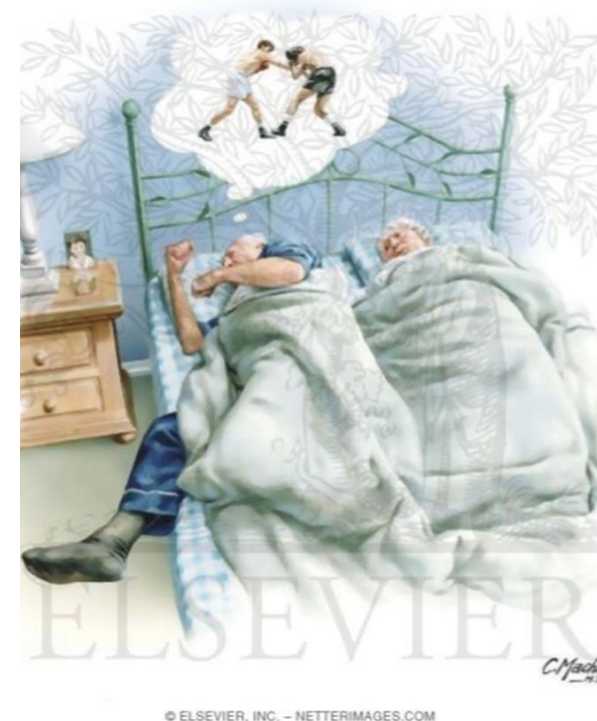


Restless Legs – Treatment

- Medications for Parkinson's motor symptoms may also help RLS (e.g. dopamine agonists, levodopa)
- Gabapentin
- Clonazepam
- Opiates for severe cases

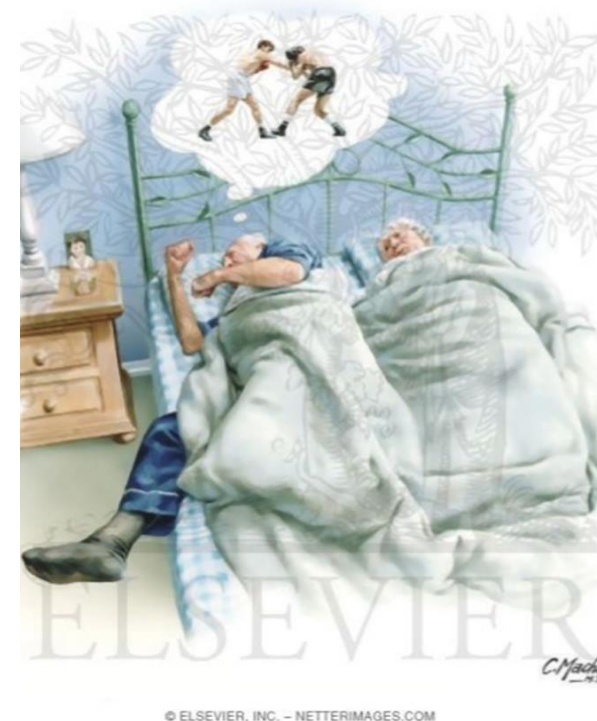
Sleep – Dream Enactment

- REM Sleep Behavior Disorder (RBD)
 - Acting out dream behaviors during REM sleep
 - Sleep talking
 - Punching and kicking
 - Falling out of bed



Dream Enactment – Treatment

- Practical
 - Move sharp objects away
 - Pillows or mattress on floor next to bed
 - Bed railing
 - Separate beds
- Medications
 - Melatonin
 - Clonazepam



Non-motor Symptoms

1. Autonomic

2. Sleep

3. Mood and thinking

- Depression
- Anxiety
- Cognition

4. Other important things



Mood and Thinking – Depression

- Low or blue mood, decreased interest
- Common and often unrecognized
- Some depression symptoms overlap with Parkinson's symptoms
 - Less facial expression
 - Low energy
 - Poor sleep



Depression – Treatment

- Behavioral activation
- Exercise
- Talk therapy



Depression – Medications

- Dopamine agonists
- SSRIs
 - Fluoxetine, sertraline, citalopram, escitalopram, paroxetine
- Other prescription medicines
 - Bupropion, venlafaxine, duloxetine, trazodone, mirtazapine



Mood and Thinking – Anxiety

- Frequently co-exists with depression
- Can be the single most bothersome symptom
- Often exacerbates tremor and vice versa



Anxiety – Treatment

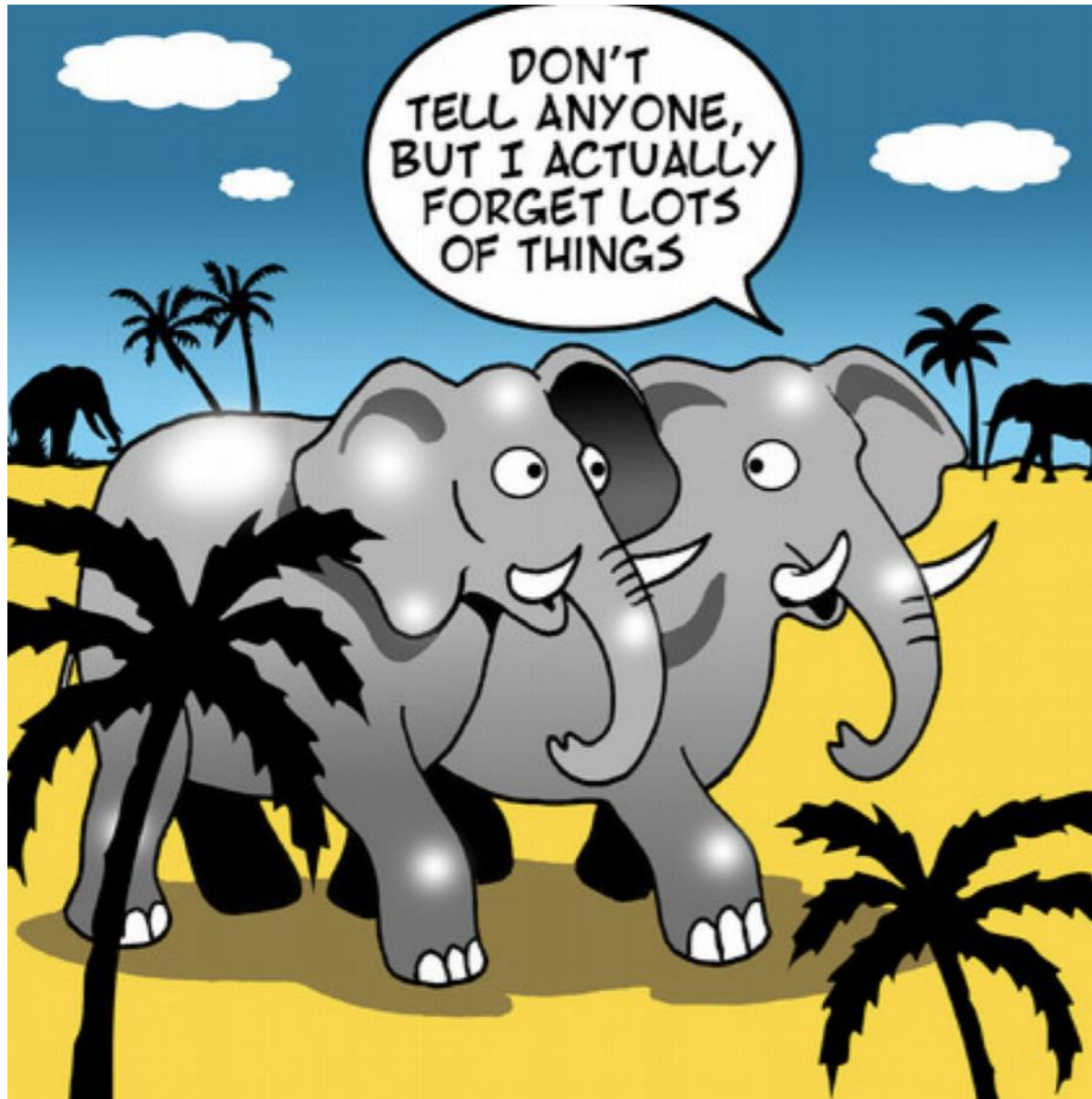
- Exercise
- Talk therapy
- Meditation



Anxiety – Treatment

- Many antidepressants also help anxiety:
- SSRIs
 - Prozac, Zoloft, Celexa, Paxil, Lexapro
- Other prescription medicines
 - Wellbutrin, Effexor, Cymbalta, trazodone, mirtazapine
- Clonazepam





Mood and Thinking – Cognition

- Effects on:
 - Recall
 - Decision making
 - Planning



Cognition – Treatment

- Physical activity
- Mental activity
- Social activity
- Reduce sedating medications





"You need more activity. Start with some light dusting of your exercise equipment."

Mood and Thinking – Cognition

- Exists on a spectrum:
 - Normal aging
 - Mild cognitive impairment (MCI)
 - Dementia



Cognitive Impairment – Medications

- Cholinesterase inhibitors
 - Rivastigmine (Exelon)
 - Donepezil (Aricept)
- Memantine (Namenda)



Hallucinations – Medications

- Hallucinations sometimes occur in more progressed stages of Parkinson's
- Can treat if bothersome/ frightening
- Cholinesterase inhibitors
 - Rivastigmine (Exelon)
 - Donepezil (Aricept)
- Antipsychotics
 - Quetiapine (Seroquel)
 - Pimavanserin (Nuplazid)
 - Clozapine (Clozaril)
 - *Avoid other antipsychotics if possible*
 - *E.g. Haldol, Risperdal, Abilify, Zyprexa, Geodon*



Non-motor Symptoms

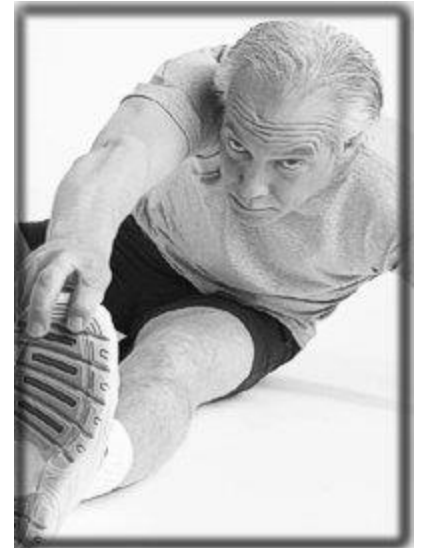
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 - Pain
 - Seborrheic dermatitis

Pain

- Common and often unrecognized
- Tightness
- Dystonia
 - Forceful contraction of muscles, causing twisting or cramps
- Can occur with motor fluctuations
 - Adjust Parkinson's medications

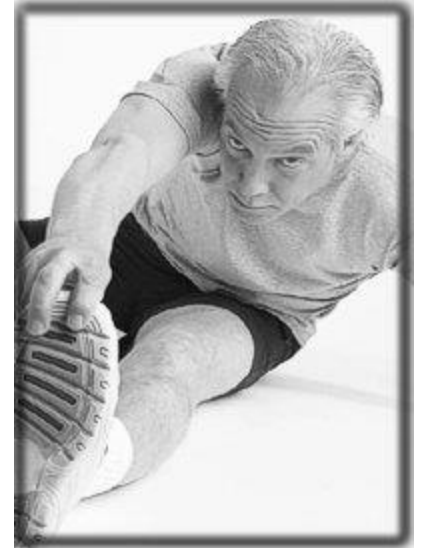
Pain – Treatment

- Stretching
- Massage
- Warm baths



Pain – Treatment

- Over-the-counter pain medicines
- Nerve pain medicines
 - Gabapentin (Neurontin)
 - Pregabalin (Lyrica)
- *Avoid narcotics if possible*
 - *Long-term dependency*
 - *Worsening of constipation*
- Botulinum toxin injections for dystonia



Seborrheic dermatitis

- “Dandruff”
- Treatment
 - Sunlight exposure
 - Antidandruff shampoos
 - Selenium sulfide (Selsun)
 - Pyrithione zinc (Head and Shoulders)
 - Coal tar extract (Neutrogena T/Gel)
 - Ketoconazole cream (Nizoral)
 - Hydrocortisone cream



Non-motor Symptoms and Treatment

1. Autonomic
2. Sleep
3. Mood and thinking
4. Other important things



Thank you!