



CENTER OF EXCELLENCE



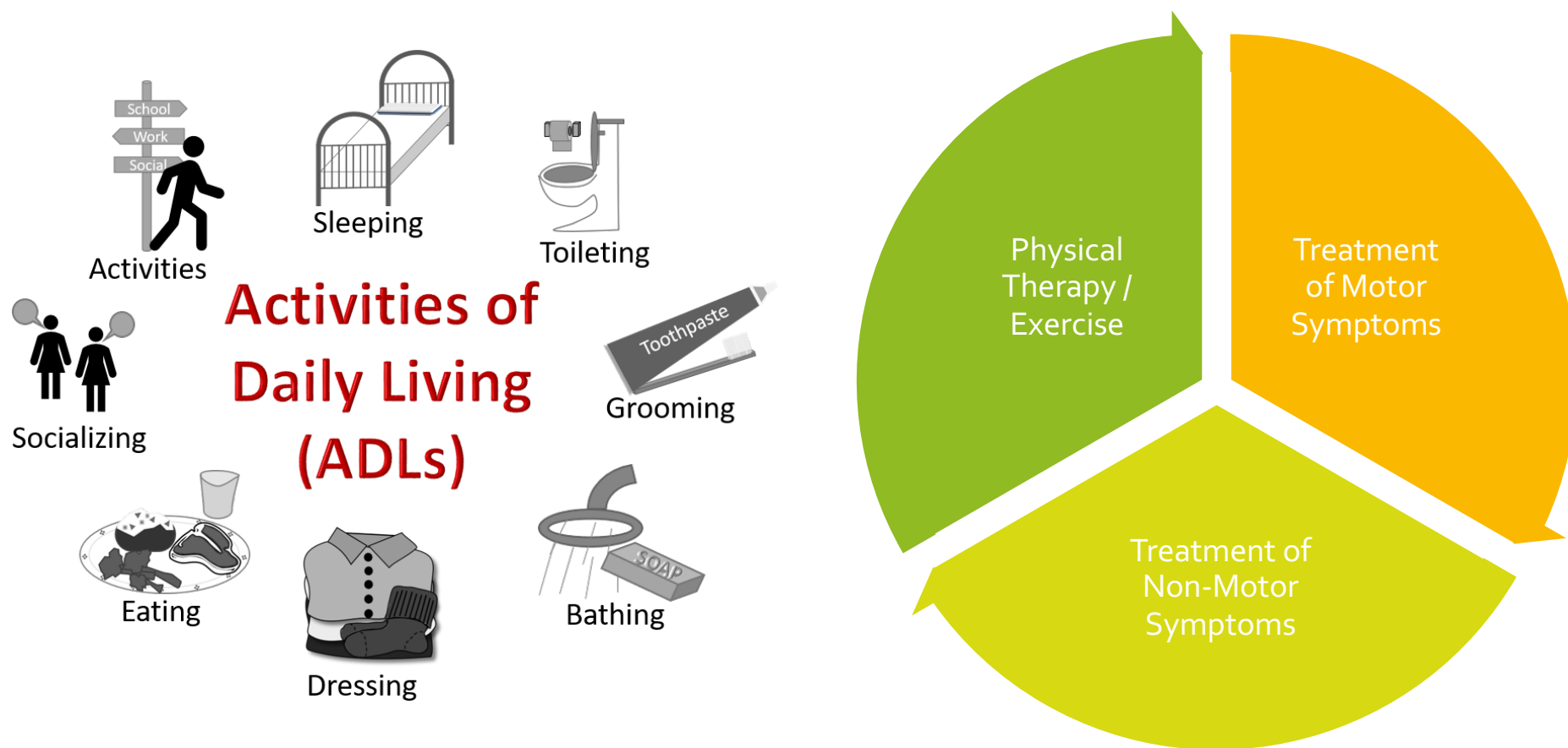
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Parkinson Disease: New Diagnosis Workshop Treatment

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Managing symptoms of Parkinson Disease (PD)

- Individualized approach
- Based on severity of symptoms



Why exercise?

What is the best exercise program for me?

- Some clinical data that symptoms may progress more slowly in those who exercise
- Can help with maintaining motor skills (e.g., balance), but can also improve non-motor symptoms (e.g., constipation, mood, sleep)
- Research supports a variety of exercises in Parkinson disease, including aerobic/cardiac, strength-training, balance training, mobility/stretching
 - e.g., treadmill, cycling, walking with Nordic poles, tai chi, boxing, dancing, etc.
- No one-size-fits-all answer:
 - **Best exercise is something you can enjoy enough to do frequently and consistently**
 - **Aim for 3 times a week as a minimum**

What medications are used in treatment of Parkinson disease?

- **Levodopa/carbidopa** was a major breakthrough in symptomatic treatment of Parkinson disease in the 1960s
- Levodopa is converted to dopamine in the brain (carbidopa prevents conversion to dopamine outside the brain, to reduce side effects such as nausea and low blood pressure)
- **Dopamine agonists** activate dopamine receptors
- **Entacapone** slows dopamine breakdown (prolonging levodopa effect)
- **MAO inhibitors** (i.e., **rasagiline** or **selegiline**) also slow dopamine breakdown and mildly enhance dopamine effects

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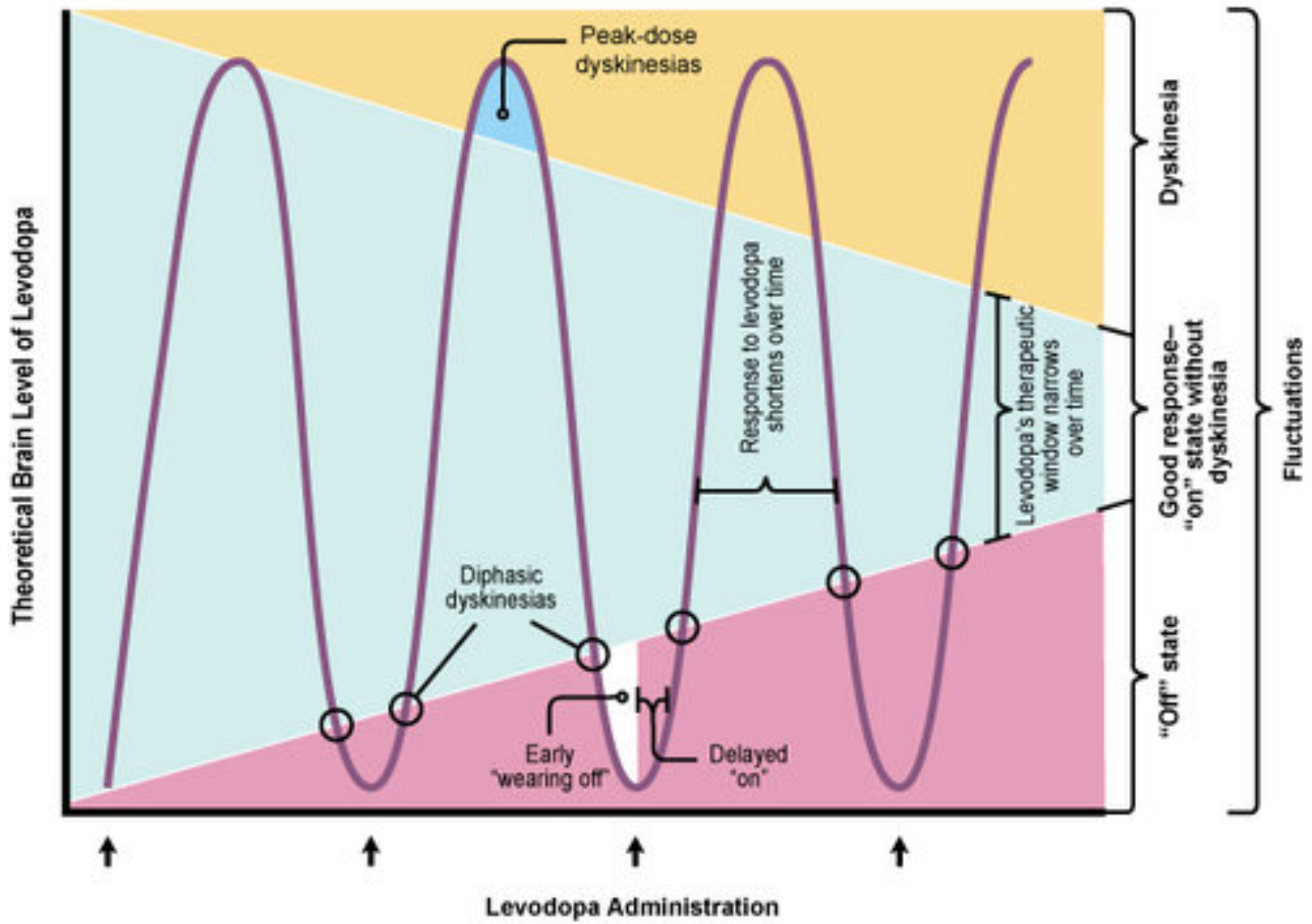
- Levodopa remains the **most effective/potent medication** available
- **Everyone with Parkinson disease eventually requires levodopa**, but very early in disease symptoms may be controlled with other agents alone
- Common side effects include: nausea, GI upset, low blood pressure/headache; all can be alleviated by a **slow introduction** of medication, taking with a **carbohydrate load**, and/or **domperidone**

What medications are used in treatment of Parkinson disease?

- Symptoms that improve with levodopa are called levodopa-responsive (often motor symptoms such as stiffness, slowness, tremor, but sometimes non-motor symptoms such as soreness/pain, sweating, episodic anxiety, bladder urgency, etc.)
- Initially, there is a long-duration effect (overall improvement noted after days/weeks of treatment, no worsening noted if the odd dose is missed, but clear worsening if medication stopped or reduced after days/weeks)
- With disease progression, patients become more aware of a dose-dependent response (symptoms improving and returning with each dose of medication every few hours)
 - “off” periods
 - motor fluctuations

More about levodopa and dyskinesia

- With increased duration of disease, patients can experience dyskinesia:
periods of excess rocking/writhing movements correlating in time with doses of levodopa
- Our current understanding is that dyskinesia correlate best with longer disease duration and higher individual doses of levodopa, rather than cumulated levodopa exposure
- With advanced disease, "off" periods and severe dyskinesia can alternate as levodopa blood levels rise and fall



Therapies for advanced Parkinson disease

- When severe dyskinesias and/or frequent “off” periods occur, the following advanced therapies may be helpful:
 - **Deep brain stimulation**
 - Pacemaker connected to electrodes implanted in the brain, delivering a small electrical current to specific brain regions
 - Symptoms that respond well to DBS are symptoms that are levodopa-responsive! (i.e., DBS is not for everyone and does not fix all problems)
 - Poor overall health, more advanced age, cognitive impairment, psychiatric symptoms, and certain midline motor symptoms such as freezing of gait and soft speech can be reasons to avoid DBS
 - **Duodopa**: levodopa gel intestinal infusion
 - Again, works for symptoms that respond well to levodopa, but used when frequent wearing-off and/or severe dyskinesia are interfering with quality of life
 - Cognitive impairment is less of a concern
 - Presence of a care partner is important

Tuesday
February 14
@ 12 pm

