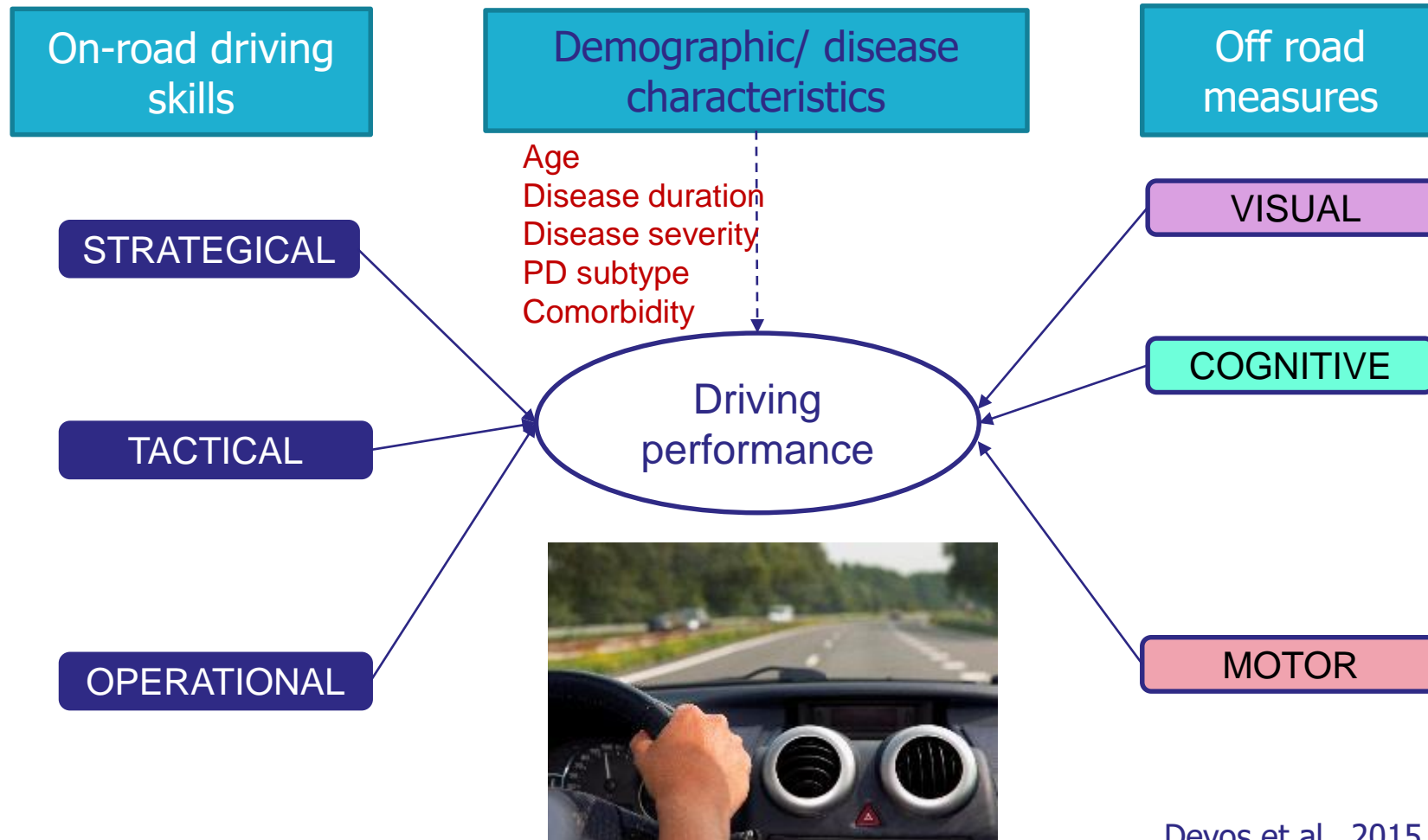


Driving in Parkinson's Disease

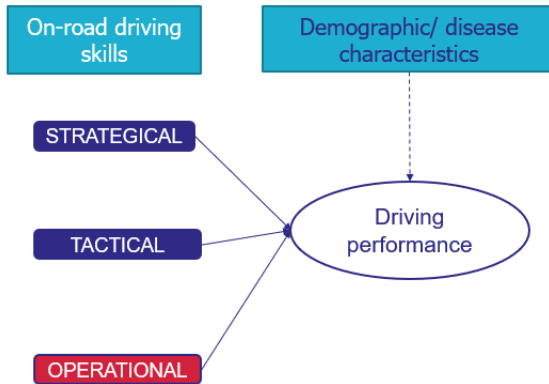
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Parkinson's Disease



Devos et al., 2015

Driving issues



Classen et al., 2014; Uc et al., 2009; Wood et al., 2005



Cordell et al., 2007; Classen et al., 2014; Uc et al., 2009; Wood et al., 2005

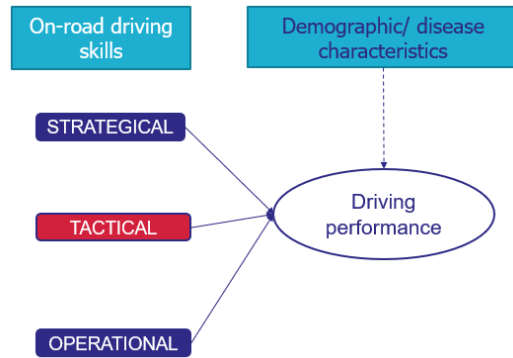


Lee et al., 2007



Cordell et al., 2008; Lee et al., 2007

Driving issues



Problems to adapt the speed (Crizzle & Myers, 2013; Uc et al., 2007; Cordell et al., 2008; Ranchet, et al., 2013; Uc et al., 2009)

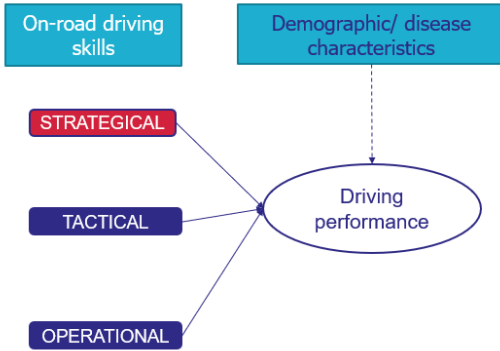
Difficulties with visual scanning behavior



Inappropriate response to traffic events (Classen et al., 2014; Uc et al., 2009)



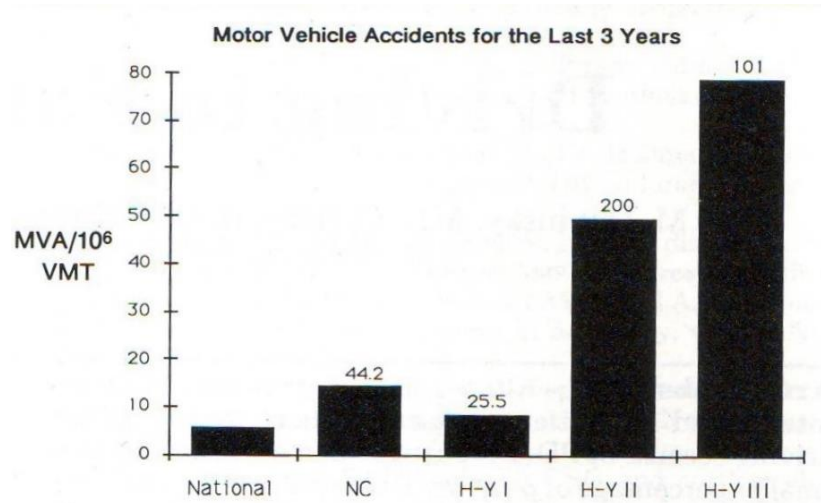
Driving issues



Compensation strategies by

- adjusting travel distance, time of the day, route (Uc et al., 2011)
- Avoiding driving at night and in inclement weather (Crizzle & Myers, 2013)
- Get lost in traffic while driving a memorized route (Uc et al., 2007)

Risk of motor vehicle crashes



(Dubinsky et al., 1992)

Epidemiological studies and meta-analyses showed that PD was not associated with higher risk of crashes (Lafont et al., 2008; Thompson et al., 2018; Uc et al., 2011)

→ They are more likely to cease driving or self-regulate using compensatory strategies (Lafont et al., 2010, Uc et al., 2011)

Assessment of fitness-to-drive in PD



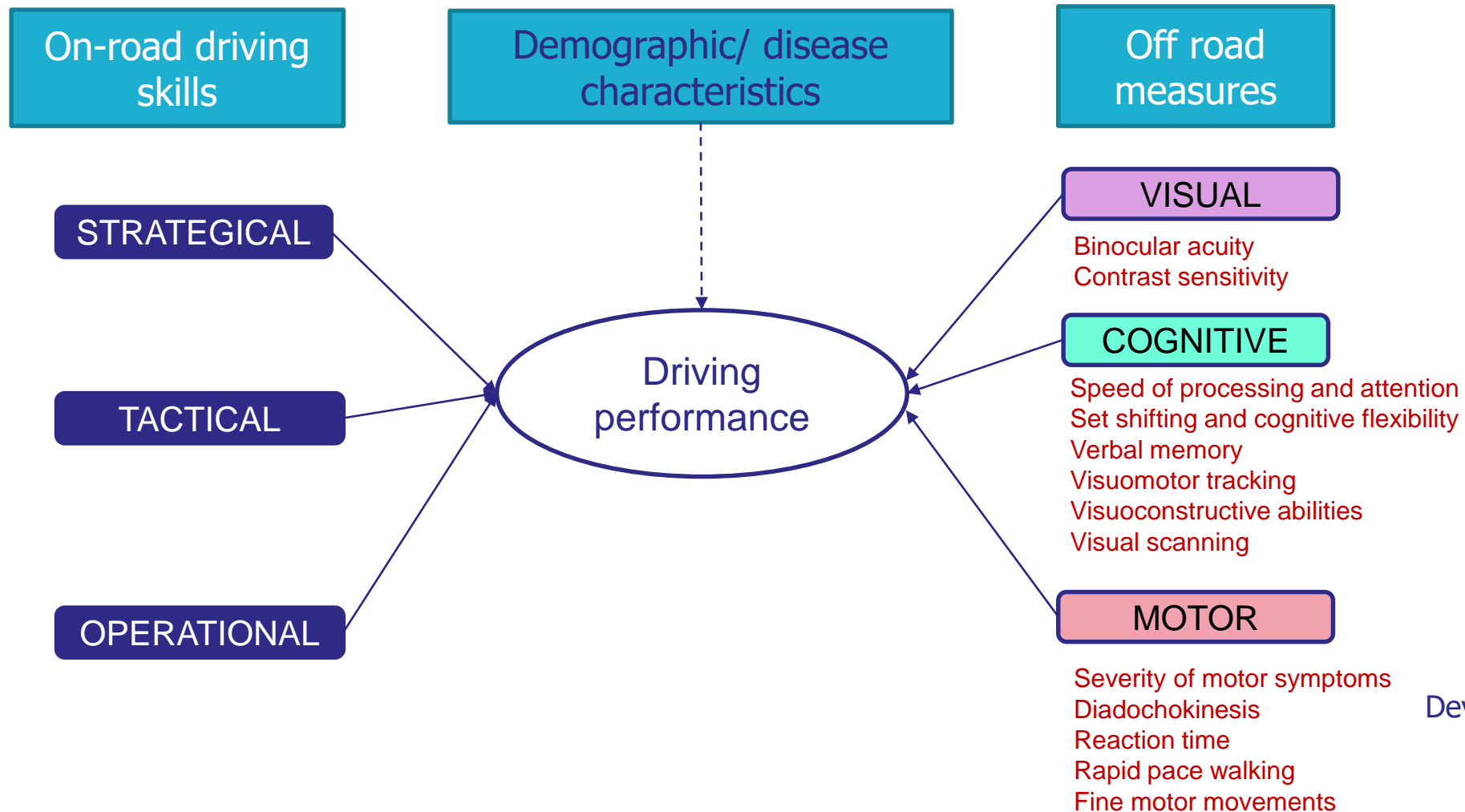
In France, it is the physician (general practitioner or neurologist) who advises the patient regarding his/her fitness to drive.

In other countries (e.g. US, Belgium), there are fitness to drive assessments

Percentage of drivers with PD who failed the on-road driving evaluation ranged from 30 to 56% (Devos et al., 2015)

In a recent study in Belgium, 69 % of PD patients (n = 50 out of 72) were considered fit to drive (Ranchet et al, 2016)

Assessment of fitness-to-drive in PD

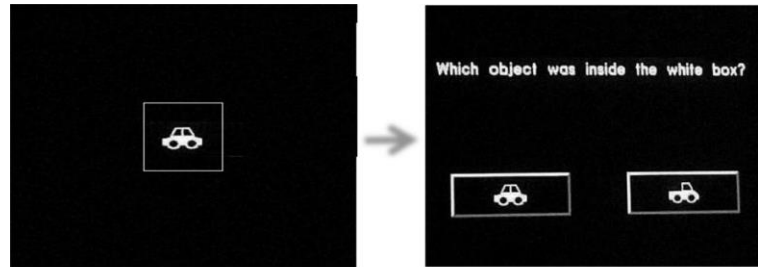


Devos et al., 2015

Screening tools

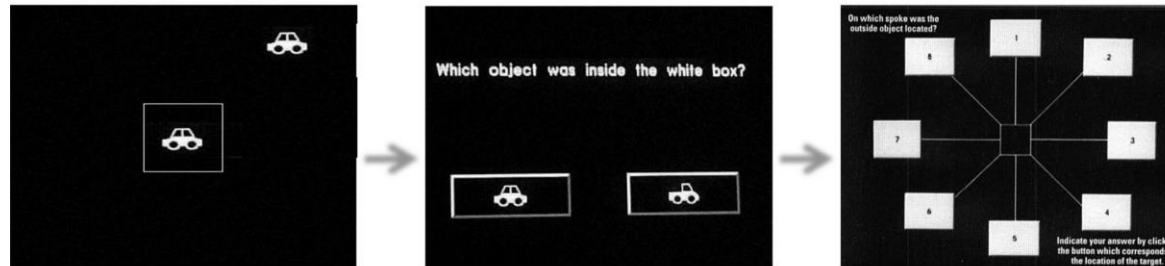
Cognitive screening – Useful Visual Field of View

Processing speed

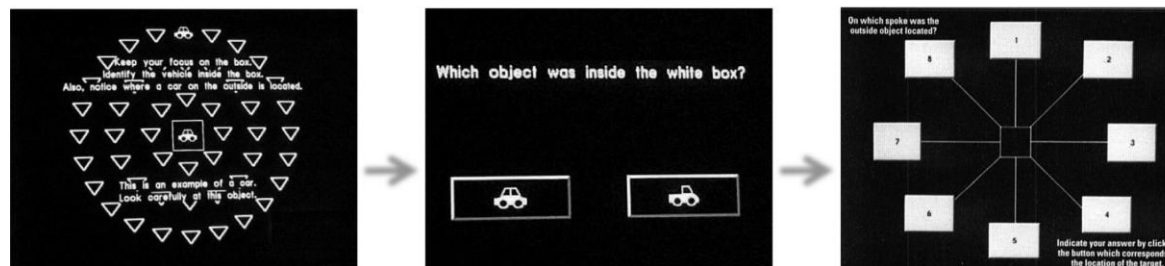


Speed of processing and attention (Classen et al., 2009, 2011; Devos et al., 2013; Rafdford et al., 2004; Uc et al., 2009)

Divided attention



Selective attention



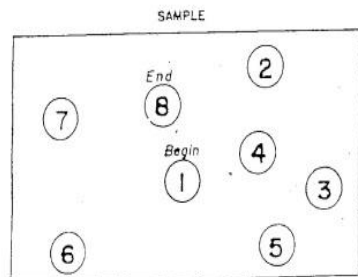
Screening tools

Cognitive screening – Trail Making Test

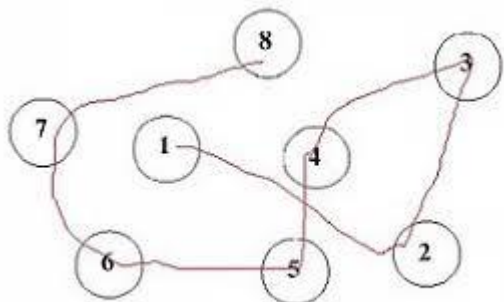
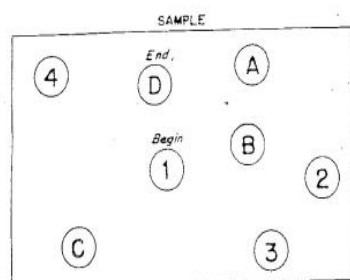
Trail Making Test

Visuomotor tracking (Amick et al., 2007)

Part A: Draw line connecting #'s
1-2-3-4



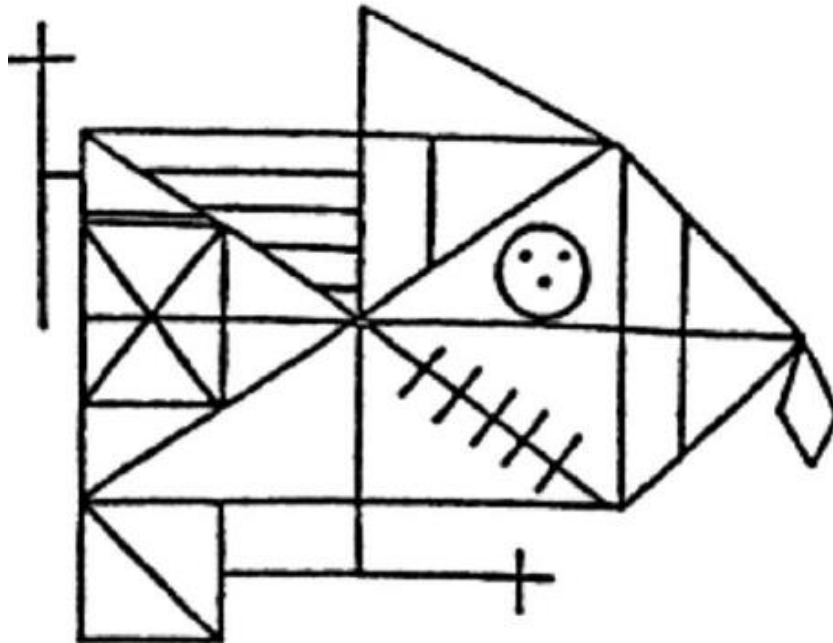
Part B: Draw line connecting # -> letter -> #
1-A-2-B-3-C



Set shifting (Amick et al., 2007;
McCarthy et al., 2007) and
cognitive flexibility (Devos et al.,
2013, Ranchet et al., 2013)

Screening tools

Cognitive screening – Figure of Rey



Visuoconstructive abilities (Amick et al., 2007)

Take home messages

- Drivers with PD showed driving difficulties
- Many individuals with PD remain fit-to-drive
- Clinical screenings may help neurologists in selecting patients who need further testing
- Good target population for driving rehabilitation

Acknowledgements



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