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DASS Divided Attention Steering Simulator

DASS can perform two types of divided attention driving test - the 2D 'turbulence' test based on the work of George et. al. and the 3D 'road' test based on the work in the laboratories of Land and Stradling (see references). Both types of test require the user to track using a steering wheel. The divided attention part of each test is that the patient has to visually search the periphery for a target number amongst a sequence of numbers and respond with button presses to the appearance of particular number. Both of these tests have been shown to be very different in patients with sleep apnoea compared to normal controls. We can provide the software (W95/98/NT/2000/XP) and full size steering wheel.

The role of the DASS?

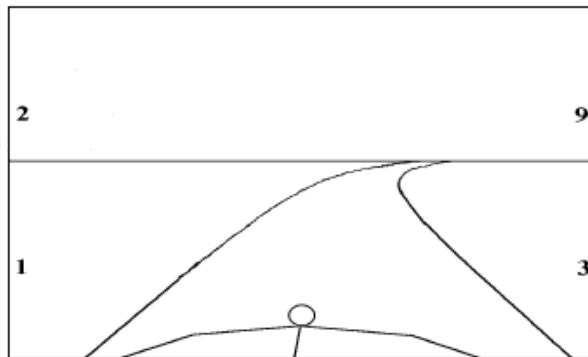
Primarily to investigate intra-subject variability as for example pre and post treatment there is quite a large inter-subject variability in the test due to skill differences. If an objective inter-subject test is required we suggest that the OSLER test be used.

2D Turbulence Test (George et al)

The 2D test is designed to simulate steering down a motorway (or 'freeway') while being buffeted by side winds. The patient is required to steer the car (to keep a cursor within a central white box which represents the safe space for a car) while a forcing function (a sum of 6 sine-waves) is applied to move the car pseudo-randomly from side to side.

- > A Practice Run allows the patient to get a feel for the program before the main run begins
- > The Target Number can be set
- > The frequency, period and amplitude of the turbulence parameters can be set.

View and print the tracking plot, the target number results and the 2D results.



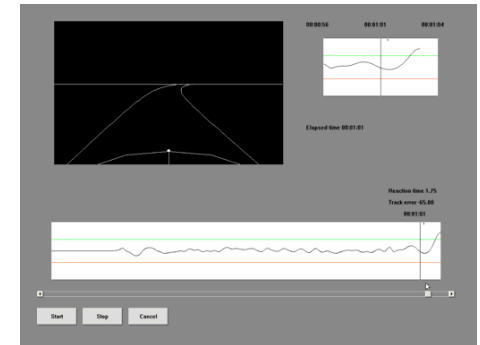
3D Road Test ('LandStrad')

The 3D Road test is designed to emulate steering along a winding road. The patient is required to steer the car centrally within the road outline. Off road events of 15 seconds terminate the test.

Definable options are:

- Run Times
- Steering Sensitivity
- Road Speed:
 - Fast, Medium or Slow
- Road View:
 - All road, Near field and Far field

View and print a trace of the deviation from the centre of the road and the 3D results.



DASS Specifications

- **DASS Steering Wheel:** Logitech G25 wheel
- **Size:** 35cm (14")
- **Weight:** 300 g
- **Powered:** From Midi interface
- **Temperature Range:** 0 - +40°C
- **Interconnecting Cable:** between USB and steering wheel
- **Cable type/ length:** USB/2m)1.5m
- **Computer requirements:** Microsoft Windows™ 98SE /NT-SP6/ 2000/ XP with midi port or USB adapter
- **Software:** Stowood Scientific DL2001 on CD ROM

References

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9. [George C.F.P et al](#) 'Reduction in motor vehicle collisions following treatment of sleep apnoea with nasal CPAP' Thorax 2001 Jul; 56(7) 508-12
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