Driving Simulator

CHDR uses state-of-the-art driving simulators to safely study the effects of pharmacological compounds and/or diseases on driving performance.

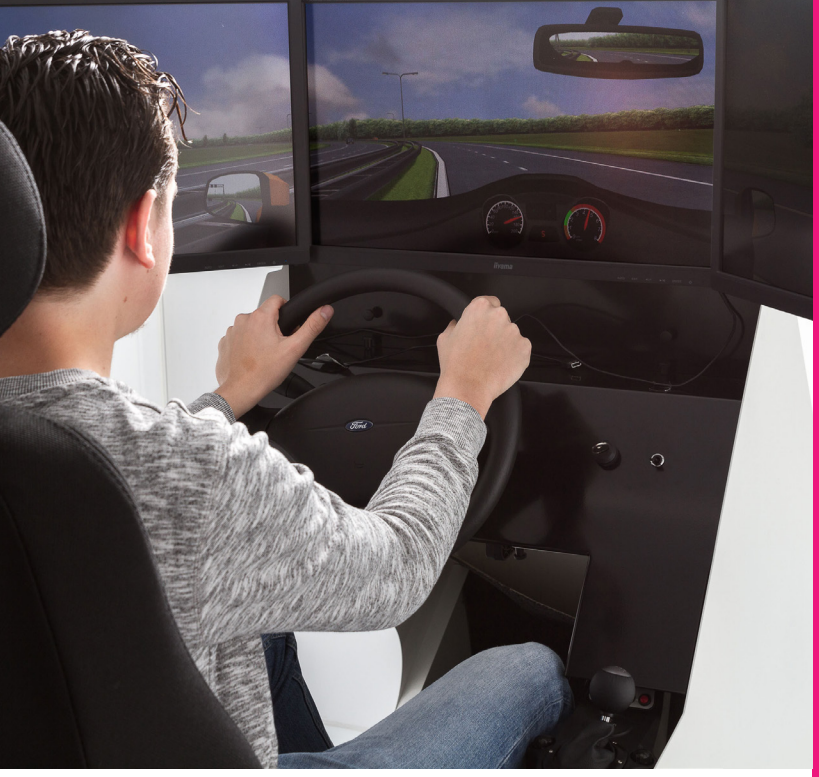
Driving Simulator at a glance

- The driving simulator is a safer version of the standard driving test, providing a robust measure of a drug's effects on attention and motor control.
- The simulator can be programmed to measure specific effects, impairments, and other disabilities that may affect driving performance, for example decision-making, motor control, risk-taking behaviour, and spatial memory.
- The results are recorded automatically and can be correlated with blood values and other physiological parameters.
- The test can be repeated frequently, allowing the researcher to measure the time course of driving performance during dosing.
- The effects of a new compound can be compared to benchmark compounds such as alcohol intoxication or medications known to impair driving ability.

Providing early information about a drug's effect on driving performance

The driving simulator can be used early in drug development, and it can be integrated into a study that includes additional neurophysiology tools such as CHDR's NeuroCart®. This information can then be used to develop subsequent trials.

CHDR
Centre for Human Drug Research



Why choose CHDR?

The Centre for Human Drug Research specialises in early-phase clinical drug research. CHDR's overall mission is to improve the drug development process by collecting as much information as possible regarding the candidate drug in the early phases of development. This information helps sponsors make informed decisions regarding the course of clinical development for their product.

Research at CHDR covers a wide range of fields, including the central nervous system (CNS) and pain, the cardiovascular system, haemostasis, immunology, and dermatology. In addition, CHDR is at the forefront in developing novel biomarkers and methods for measuring drug-related effects in all of these research areas.

Pharmacology matters

Whether studying a new cognitive-enhancing drug, a next-generation painkiller, or a new monoclonal antibody designed to treat rheumatoid arthritis, the goal is to determine how the compound's effects correlate with both the dose and blood concentration at any given moment. In addition, understanding which biological systems are activated is an essential first step towards quantifying this relationship. At CHDR, our focus on pharmacology is reflected clearly in what we call question-based drug development.

Question-based drug development

CHDR actively uses question-based drug development - or QBD - as a more rational approach to drug development compared to conventional approaches. QBD can be best described as a series of questions that are addressed throughout the process. These questions often seem simple enough, but failing to answer even one question - or even addressing the questions in the wrong order - can have dire consequences. Thus, using this approach can potentially save companies millions of dollars by helping predict a catastrophic issue early in the development process, before the more expensive latter stages (for example, large-scale clinical trials or the marketing phase).

From a general perspective, the most important questions are:

1. Does the biologically active compound and/or active metabolite(s) reach the intended site of action?
2. Does the compound cause its intended pharmacological and/or functional effect(s)?
3. Does the compound cause any unintended pharmacological and/or functional effect(s)?
4. Does the compound have a beneficial effect on the disease and/or clinical pathophysiology?
5. What is the compound's therapeutic window?
6. How does any variability with respect to the drug response in the target population affect the product's development?

Contact us

To learn about CHDR's full range of services, contact us today.

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