

Presentation 5 – Christopher Sinton

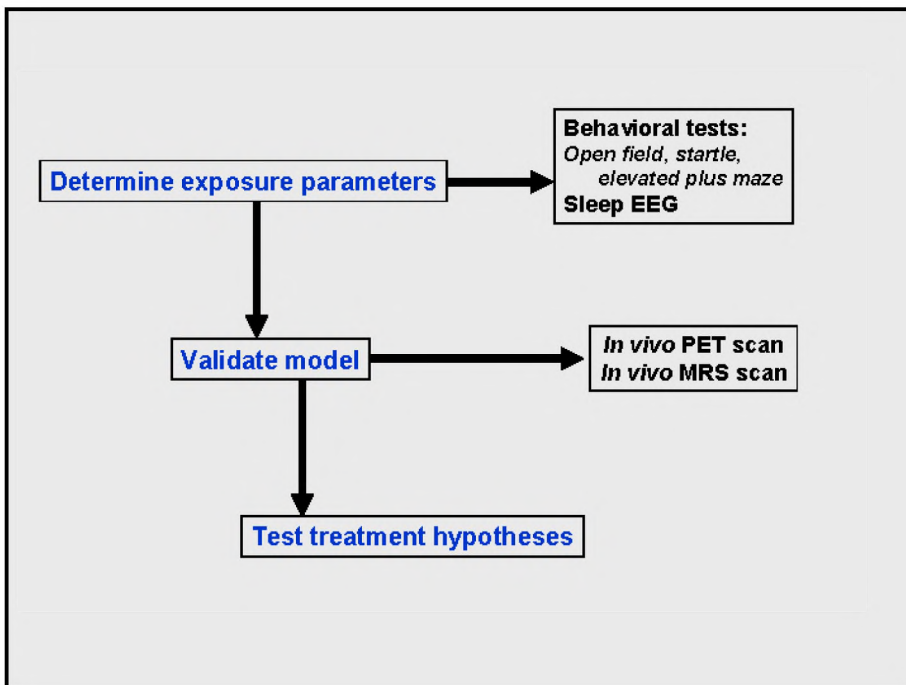
**A rodent model of Gulf War Illness:
development and validation**

Does **low-dose, repeated** exposure to AChEi agents
induce **delayed** minimal brain dysfunction?

Christopher M Sinton
Dept of Internal Medicine
UT Southwestern Medical Center

Principal goals of the study

- Establish the exposure parameters for AChEi agents that induce delayed CNS functional effects
- Examine the face validity of the model using non-invasive brain scans that can reproduce results found in GWI
- Determine the tests that are predictive of CNS functional effects
- Develop a platform against which mechanistic hypotheses and potential treatments can be tested



Determination of exposure parameters part 1: preliminary data in the rat

- We tested **AChEi agents** that were known exposure factors during the 1991 Gulf War:
Chlorpyrifos (Dursban®), Pyridostigmine bromide (Mestinon®), DEET
- We administered the compound **repeatedly**:
5 days
- We examined the **delayed outcome** in the whole animal using non-invasive tests sensitive to CNS function that could be applied repetitively (i.e., behavioral tests):
3, 6 and 12 weeks
- We established a **low-dose** treatment regime for each compound.

