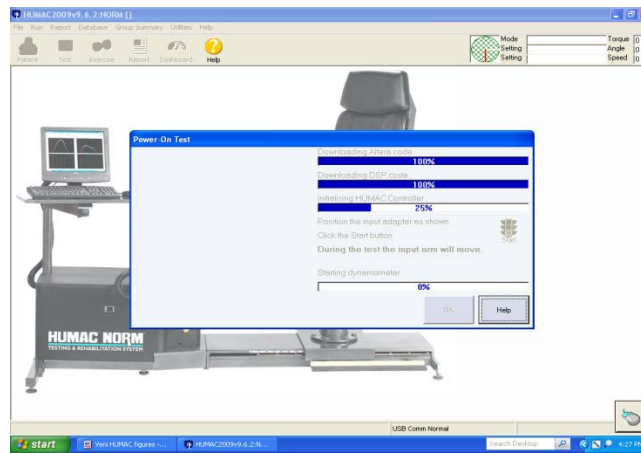


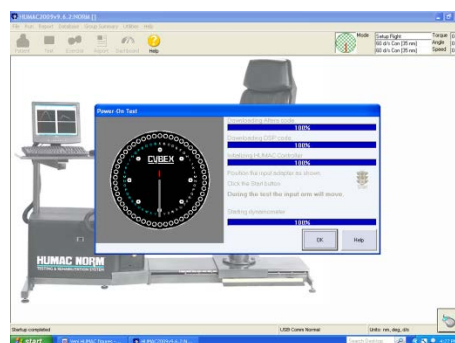
INSTRUCTION MANUAL for HUMAC NORM ISOKINETIC DYNAMOMETER SYSTEM



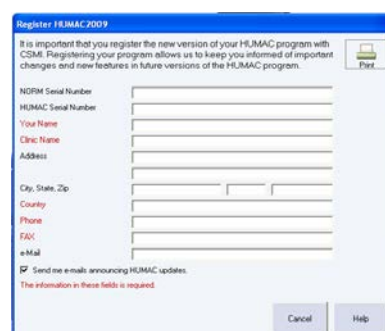
1. Power up the HUMAC Norm Isokinetic dynamometer: 1) wall, 2) grey transformer, 3) dynamometer switch and 4) computer (note: the printer should be always on).
2. Click 'HUMAC 2009' on the Desktop. The 'Power On Test' will run automatically.



3. Follow the instructions of the screen to move the crank arm to 'Z', click start (traffic light icon).
4. Wait until the 'Starting dynamometer' to run to 100%, then click 'OK'.



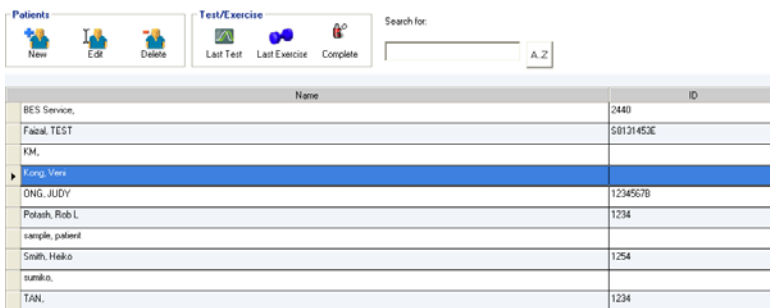
5. Ignore the request to 'Register HUMAC 2009' page, click 'cancel'.



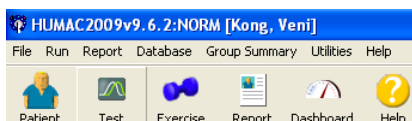
6. Click 'Patient' in the top left corner.



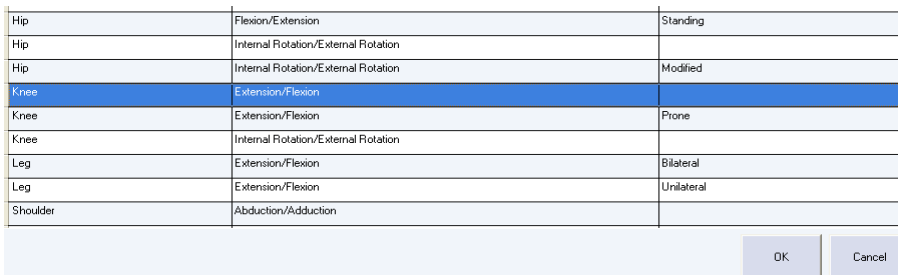
7. Add new patient. Enter patient information. If you have created a profile previously, select existing patient, e.g. Kong, Veni.



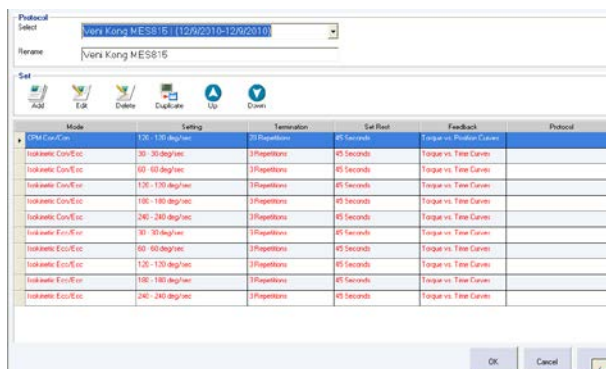
8. To run a test, click 'Test'.



9. Select pattern, e.g. 'Knee (Extension/Flexion)'. Click 'OK'.



10. Select protocol, e.g. 'VK Force-velocity Protocol'.



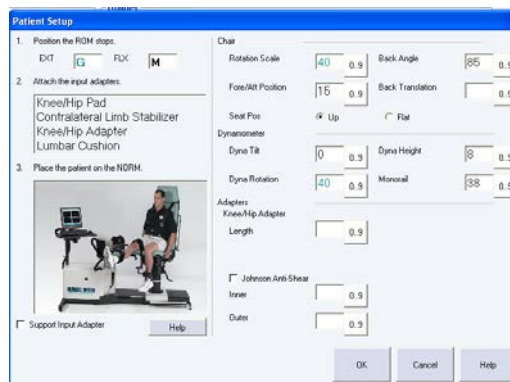
11. If you see a warning on 'Confirm High Speed/Torque Setting', click YES.



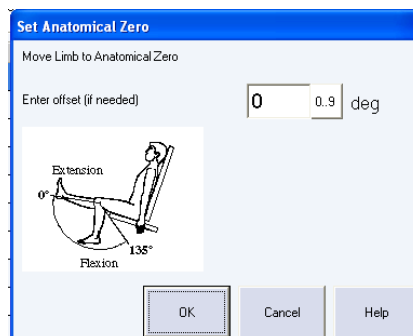
12. Choose 'Right' or 'Left'. Make sure the 'Gravity corrected torque data' option was selected. Then click 'All Sets' (traffic light icon).



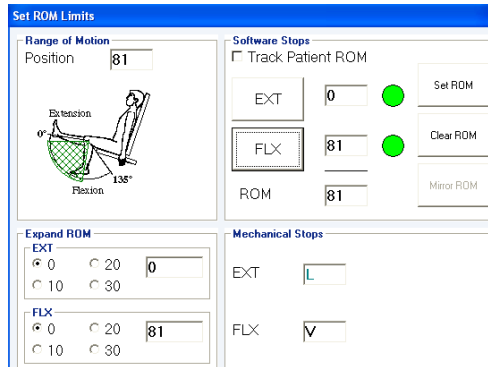
13. Patient Setup. The software will advise you to set up the mechanical safety limits and record the chair setting. For this project, you can omit this step (don't worry, you will still be safe!). Click 'OK' to proceed.



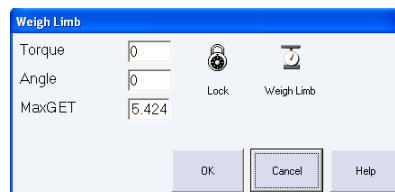
14. Set Anatomical Zero. Ask subject to extend his/her knee fully. Click 'OK' and take this position as anatomical zero.



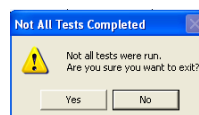
15. Set Range of Motion (ROM) Limits. This is to make sure that the dynamometer does not go beyond the subject's comfortable range – an important step for safety.
 - a. Ask subject to fully extend the knee, click 'EXT'
 - b. Ask subject to fully flex the knee, click 'FLX';
 - c. After both 'EXT' and 'FLX' are recorded, click 'Set ROM'
 - d. Move the mechanical stops to the suggested positions to ensure subject safety.
 - e. Click 'OK'.



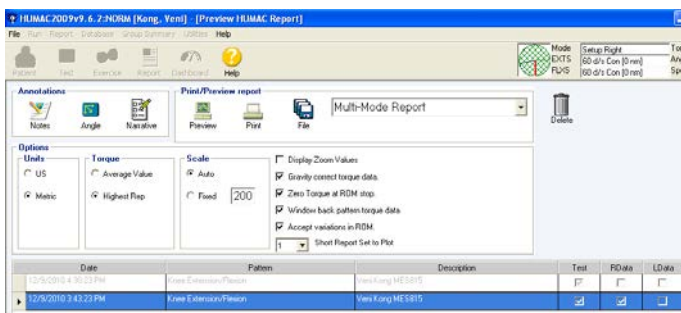
16. Weight limb (Gravity correction)
 - a. Ask subject to fully extend the knee (the closer to the horizontal, the better)
 - b. 'Lock' the crank arm
 - c. Ask subject to relax the limb completely
 - d. Click 'Weight limb'
 - e. **Warning: Do NOT click 'OK' just yet!**



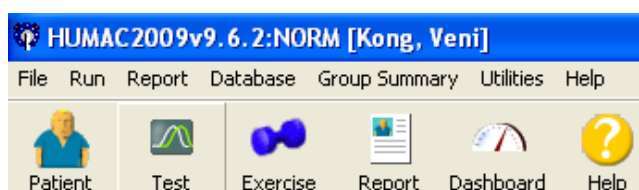
17. Precautions before starting a test:
 - a. Tester should be clear from the testing range (won't be kicked by the subject).
 - b. Subject should get ready for the test.
 - c. When everyone is ready, click 'OK' under the 'Weight Limb' pop-up window.
18. Run test. Follow on-screen instructions.
19. If a warning message below appears after the test, click 'Yes' to exit.



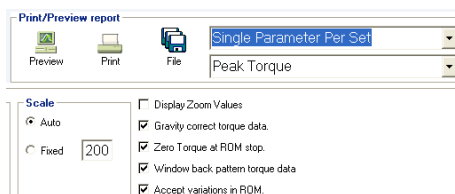
20. When you have completed the protocol, a report window should appear automatically. Select the correct date, patient and tested protocol.



21. If the report window does not come up automatically, click 'Report' under the main panel.



22. Choose 'Single Parameter Per Set' and 'Peak Torque'.



23. Click 'Preview' to see the report, then 'OK' to close the pop-up window.

24. Click 'Print' to save a pdf copy of your report.