



Instructions for Use: ViMove



Version 5.0

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Regulatory Information

Symbols and Labeling Information

The following table lists the labels attached to various components of ViMove

Symbol	Explanation
	Attention! Consult the documentation provided with ViMove
	Class II equipment
	Type B equipment
	FCC compliance
	CE mark
	Date of manufacture
	Humidity limitation
	Temperature limitation
RX ONLY	Prescription Only Device. Not to be used other than by a suitably qualified health practitioner.

FCC Caution

Caution: US Federal Law restricts this device to sale by or on the order of a health care professional.

This device complies with Part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s).

Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Warning: Any changes or modifications not expressly approved by dorsaVi could void the user's authority to operate this equipment

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encourage to try to correct the interference by one or more of the following measures:

- *Reorient or relocate the receiving antenna*
- *Increase the separation between the equipment and receiver*
- *Connect the equipment into an outlet on a circuit different from that to which the receiver is connected*
- *Consult the dealer or an experienced radio/TV technician for help*

Indications

ViMove is intended to be used on patients that have already injured their lower back, or who are at risk of injuring their back. The device measures, records and analyses movements and muscle activity of the lower back and can provide real-time feedback to the wearer via an audible tone and a vibration warning when the wearer undertakes high risk positions or movements that have the potential to injure or re-injure the back. The device can be used in-clinic for visual feedback and training, or provide ambulatory biofeedback to the patient whilst out in the field. Retrospective feedback is also provided through reports generated for the treating medical clinician that includes the number of high risk positions and movements throughout the day.

Contraindications

ViMove should **not** be used where any of the following circumstances exist:

- Patients with an implanted electronic device (for example a cardiac pacemaker) should not be subjected to use unless specialist medical opinion has first been obtained.
- Patients with undiagnosed pain conditions.
- Patients with diminished mental capacity or physical competence limiting the use of the device.
- Pregnant patients, unless specialist medical opinion has first been obtained.
- Patients with a known skin condition or allergy, unless specialist medical opinion has first been obtained.

Warnings

None noted.

Precautions

The following precautions should be observed when using the ViMove device:

- Only use the unit for purposes which it is intended.
- Always ask the patient about skin allergies they may have prior to ViMove use. Gauge the severity of the allergy and assess whether a reduced session on ViMove, and/or using a protective film on the skin prior to application, would be safer for the patient, or whether they should not use ViMove at all if the allergy is of a serious nature.
- In order to reduce the risk of skin irritation, it is advised not to wear the sensors for any more than 24 hours in any 72 hour period.
- There is the potential for patients to injure or re-injure their back if there is a function failure and the device fails to alert the patient of risk related movements. To prevent this, the device has been programmed to alert the patient if a signal loss or other malfunction occurs. Ensure the patient is informed of these features and are aware they will not be receiving bio-feedback if one of these warnings is shown.
- Use only with supplied power supply.
- Recording and Feedback Device (RFD) Battery: As with all batteries, there is a risk of battery leakage or explosion; however the manufacturer of the RFD battery has conducted safety tests, heating the batteries to 130°C for ten minutes with no rupture, no fire, bursting or explosion. In addition the battery is housed in the sealed, crush tested, splash resistant RFD unit.
- Do not clean the equipment with Acetone. Use alcohol wipes for cleaning.
- Do not immerse any components of the device in water or any other liquid substance.
- Use of any equipment should be immediately terminated upon any sign of treatment-related distress or discomfort.
- Not to be connected to a patient undergoing MRI (Magnetic Resonance Imaging), Electro-surgery or defibrillation.
- Operations in close proximity to shortwave or microwave therapy equipment may produce instability in the ViMove output.
- Do not operate the device within 10 feet of powerful radio interference producing sources such as arc welders, radio thermal treatment equipment, x-ray machines, or any other equipment that produces electrical sparks. Portable and mobile RF communication equipment may also affect this equipment.
- Radiated radio frequency electromagnetic fields can cause performance degradation in ViMove.
- After use, the Disposable Application Pads (DAPs) may be a biohazard. Following use, dispose of these materials in accordance with accepted medical practice and any applicable local, state and federal laws and regulations.
- The operator is responsible for ensuring the safety of any devices controlled or triggered by ViMove equipment or software, or by any software or hardware receiving data from equipment. dorsaVi Pty Ltd

equipment must not be configured or connected in such a way that failure in its data acquisition, processing or control functions can trigger patient feedback stimulus that poses an unacceptable level of risk.

- Between uses of the device, wipe down components with alcohol wipe or swab.

Adverse Reactions

The potential adverse reactions that may be experienced with the use of the device include:

- Skin irritation beneath the adhesive pads and/or electrodes (DAPs).

Conformance to Standards

Conformity Assessment Standard Applied:

ISO 13485: 2003 *Medical devices – Quality management systems – Requirements for regulatory purposes*

Medical Device Standards Applied:

ISO 14971	Medical Devices – Application of Risk Management to Medical Devices
ISO 14155	Clinical investigation of medical devices for human subjects - Good clinical practice
IEC 60601-1	Medical electrical equipment, Part 1: General requirements for basic safety and essential performance
IEC 60601-1-2	Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests
ISO 15223	Medical devices - Symbols to be used with medical device labels, labelling, and information to be supplied - Part 1: General requirements
ISO 10993-5	Biological evaluation of medical devices -- Part 5: Tests for in vitro cytotoxicity
ISO 10993-10	Biological evaluation of medical devices -- Part 10: Tests for irritation and skin sensitization
16 CFR 1500	Guidelines of the Federal Hazardous Substances Act (FHSA) Regulations for Cytotoxicity, Sensitization and Primary Skin Irritation tests.

How Supplied

ViMove is supplied in a case containing the Instructions for Use and the following components:

- One (1) Recording and Feedback Device (RFD)
- Two (2) MD-M Sensors
- Two (2) MD-E Sensors.
- One (1) System Recharging Dock/Cradle.
- Three (3) Disposable application pads (DAP-Ms and DAP-Es).
- One (1) Medical-grade marking pen.
- One (1) Application Template set (4 sizes).
- One (1) Mains power charger and charging cradle (100-240V AC)
- One (1) USB Cable
- One (1) ViLive Software license

System Description

ViMove is an electronic device that measures, records and analyses movements and muscle activity of the lower back. It is comprised of four key components:

- Sensors (2 movement and 2 muscle activity)
- Disposable application Pads for movement (DAP-M) and muscle (DAP-E) sensors
- Recording and Feedback Device (RFD)
- ViLive software

Wireless Sensors

2 wireless movement sensors (MD-M)

- Measures movement in 2 planes (coronal, sagittal)
- Overall movement of lumbar spine, movement at L1 and movement at S1)



2 wireless muscle sensors (MD-E)

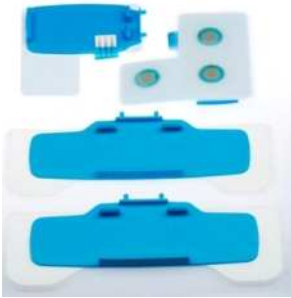
- Measures muscle activity of the erector spinae muscles at L3



Disposable Application Pads (DAPs)

Movement (DAP-M) and muscle (DAP-E)

- The DAPs stick to the patient's skin, with the sensors clipping into the DAPs



Recording and Feedback Device (RFD)

- The information collected from the sensors is sent wirelessly to the RFD for storage, analysis and display.
- Fits easily into the patient's pocket and is the size and weight of a mobile phone
- Movement can be seen instantly on the RFD
- Alerts appear on the RFD in regards to unwanted movements, postures or simply to remind patients to do prescribed exercises
- The RFD stores the information for future analysis



ViLive software package

- Enables real time streaming of movement and muscle activity data for real time display on your computer
- A movement algorithm knows when you are standing, sitting, lying or ambulatory
- Produces reports summarising patient movement and muscle activity
- Stores a database of sessions you can go back and review at any time



Power Supply and Charging cradle

- Enables you to charge the RFD and sensors in one easy process
- IMPORTANT: When the system is not in use, simply click the sensors into the cradle, connect the RFD and ViMove charges for the next use.
- To use a sensor, simply push down on the lever and remove it from the cradle, don't leave it sitting in place as it will change status and force you to go through the session set-up process again.
- You will know the sensors are charging as they will slowly switch between a green and white light. If this is not occurring on any sensor, unclip the sensor and remove it from the cradle, wait 2 secs and then place it back in.

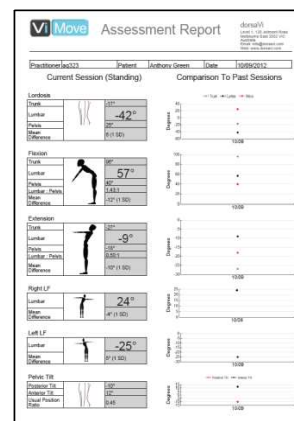


ViMove Session Types

The following options are available for ViMove use:

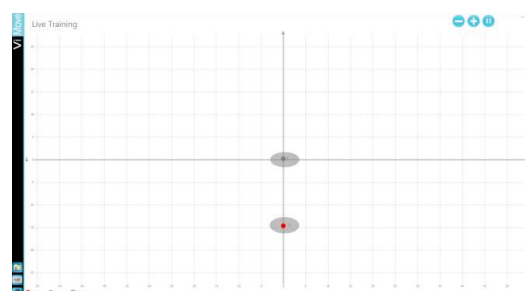
Live Assessment

- Objective measurement of movement and muscle activity
- The software guides you through a series of movements and postures
- Provides an easy to read objective summary, including range of movement, pain response, postures when sitting and standing
- Takes the guess work out of objective assessments and enables greater analysis of movement patterns and postures
- Able to clearly demonstrate to patients their own through progression rehabilitation through increased range of motion reporting



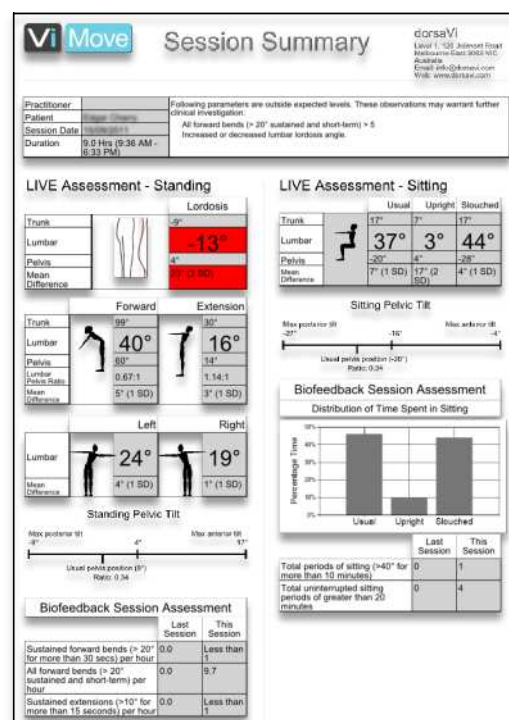
Live training

- Live streaming of movement and muscle activity data onto your computer screen
- Allows patients to see their own low back movement.
- Immediate feedback enables the patient greater understanding of their own movements
- Enables patients to alter their movement patterns and get immediate acknowledgment
- Patients are better able to understand messages you are conveying to them. What is poor movement, what is slouched sitting, and they are able to understand how to achieve better movement

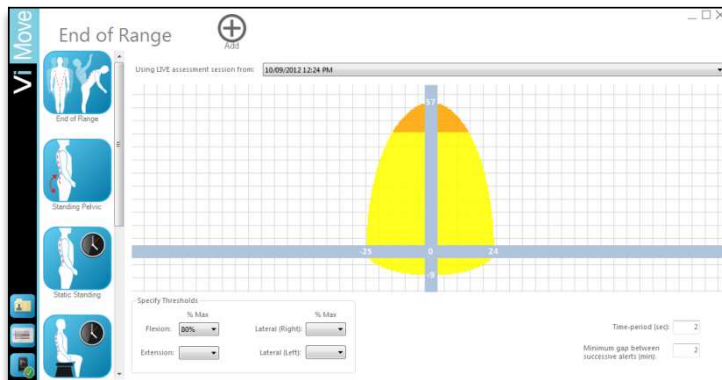


Monitoring sessions

- Patients can wear the device outside the clinic for up to 24 hours, but usually for 6-10 hours
- Captures real world data about movement and postural behaviour when at work / home.
- Generates a movement report, summarising the patients movement and postural positions over this time period
- Highlights areas of potential concern which can be further explored with Live training
- Usually conducted at beginning of treatment to get an overall picture of the patient's movement patterns, then following further treatment to gauge progress.



Biofeedback



- Used after Monitoring and Live Assessment sessions
- ViMove is worn by the patient for a complete day away from the clinic at work or at home
- Biofeedback prompts the patient with alerts configured by the health practitioner (sound and/or vibration) when they are:
 - Performing activities or maintaining postures that the healthcare professional has set as undesirable for their condition
 - Prompts for movement when a predefined period of static behaviour is detected
 - Reminds patient to do exercises
 - Encourages the patient to move within safe limits.

Hang Gliding



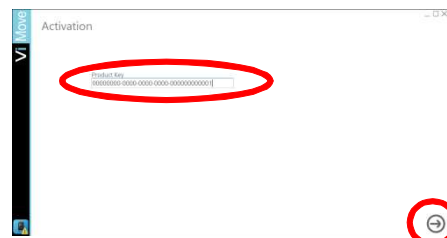
- A simple yet engaging game interface for in-clinic use.
- Patients and practice anterior and posterior pelvic tilting in a fun and interactive way.
- Facilitates:
 - motor control skills for the pelvis
 - increased range of motion
 - proprioception of the pelvis to be developed.

Directions for Use

Getting started

Your ViMove will usually be installed by your dorsaVi representative who will set up ViMove with your clinic product key already entered in the activation screen. In most cases you will never see this screen during your use of ViMove.

1. If the following screen does appear, simply enter the product key supplied to you by dorsaVi or contact dorsaVi directly to obtain this number. Then press next (➡). This will then take you to the user login screen (Initial session set-up).



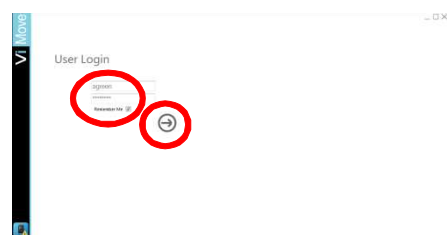
Initial session set-up

ViMove has been designed to ensure ease of use. From the 1st moment you click on the ViMove icon until the moment you are able to see movement live on your PC screen, ViMove aims to make this as seamless and quick a process as possible. In the majority of cases for a regular user of ViMove, this should be no more than 2 minutes.

2. Double click on the ViMove icon on your PC desktop



3. The User Login screen will appear. Your clinic has been set-up with unique users, all with their own username and password. Enter the details you have been given by dorsaVi and press (➡).



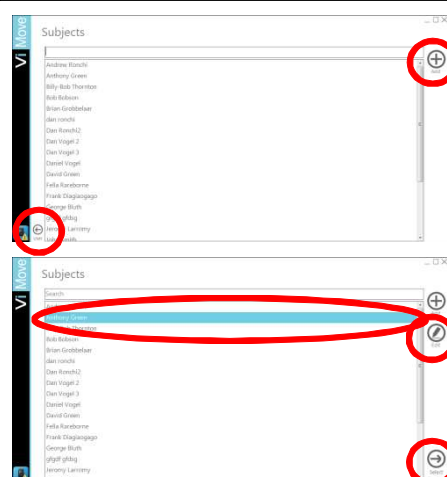
4. The subject selection screen will appear.

If you have chosen the wrong user, press on the 'user' (⬅) button and re-enter the correct user details as per step 3

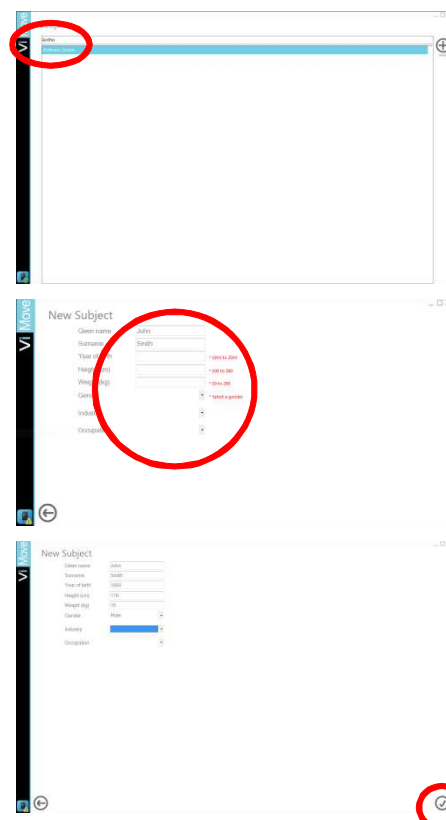
At this stage you can either enter in a new patient by pressing the 'add' (⊕) button or highlight the patient you wish to do the session on and either double click or press 'select patient' (➡) button.

If you need to edit an existing patient's details, simply click on the 'edit' (✎) button and update their details as required. To save the new details click on the 'OK' (✓) button.

If your database of patients becomes too large, simply enter the first few letters of the person's name in the 'Search' section of the Subjects screen and ViMove will automatically filter the list to make it easier to find them.

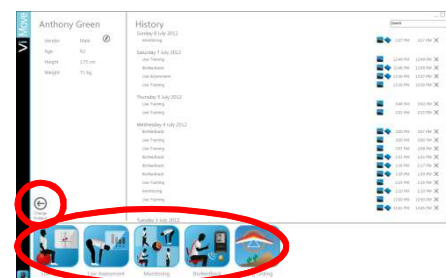


If you have decided to enter a new subject, simply enter their details in the appropriate areas (use the red writing beside each entry point to guide you). Once all the appropriate information has been entered correctly, the 'OK' button will appear. By pressing this you will save the new subject in your database and you will return to the main subject selection screen.



- Once you have selected your subject, you will come to the subject home screen. Here you can do a number of things including: selecting the appropriate application (Live Training, Live Assessment, Monitoring, Biofeedback or Hang Gliding), look through the patient's history and access previous data or reports (see 'History', page 40) or press the 'Change Subject' button if you wish to look at a different subject.

The beauty of ViMove V5 is it doesn't matter which application you choose because you can switch between them at any time. For this example, click on 'Live Training'.



Connect the RFD via USB to your computer. If it isn't connected, the following screen will appear to remind you. The RFD symbol on the bottom left hand side of the screen will have the following symbol if the RFD is not communicating with the software. Now refer to the 'Sensor selection and fitment' (page 14) section.



Sensor Selection and Fitment

ViMove allows you to choose between 2 different sensor configurations, 2 MDMs (2 sensors) or 2MDMs and 2 MDEs (4 sensors). So if you only want to look at movement and are not concerned with EMG activity, simply choose the 2 MDM configuration. If EMG information is important, click on the 4 sensor configuration, the choice is yours.

- Follow Initial session set-up instructions as per steps 1-5 (page 12-13). The following screen will appear. Click on the sensor configuration you want.

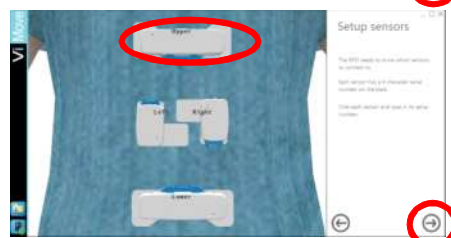
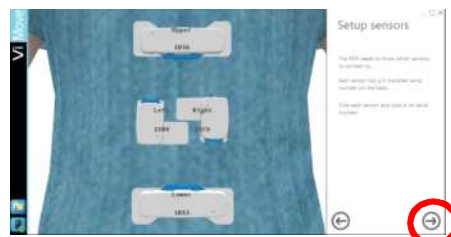


- This will take you to a close up of the sensor configuration you have chosen. If you have set up at least one session in the past, the sensor serial numbers will appear on each sensor and all you need to do is press  (move to step 8, page 14).

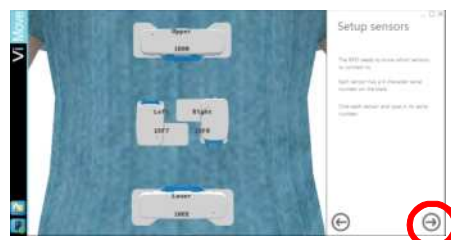
If this is the first time you have used the system you will have to enter the serial numbers of the sensors. To do this you need to click on one of the sensors or click on  button. The serial numbers appear on the back of each sensor.



Enter the serial numbers for each sensor, clicking on  after each. This will take you to the next sensor where you can enter the next serial number.



- Once you have all the serial numbers entered, press  again and this will start the 'pairing process' to prepare the sensors for a new subject session.



The Pairing Checklist will now appear. Ensuring all 4 of these steps are completed will deliver successful pairing of the sensors with the RFD. Tick each one as it is performed

- Serial numbers are correct. This is generally only relevant where you have more than 1 device in your clinic
- Dock is powered: power supply is plugged into the wall, power is turned on at the wall and the cord is attached to the dock
- Sensors are in the dock: A good habit to get into is to have all sensors in the dock, regardless of whether you are using all 4
- Sensors are flashing slowly. The sensors will slowly flash between a green light (charging) and a white light (bootloader mode)

Once all 4 are checked the next  button will appear. Press 

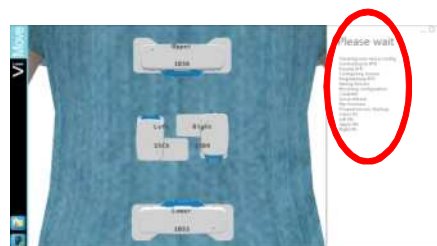
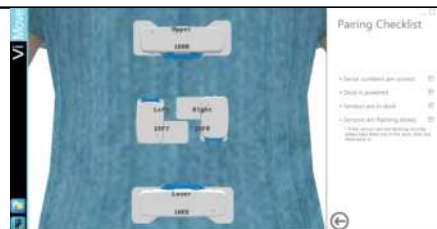
Once the pairing process starts, this screen will appear. It generally takes approx. 50 secs for the pairing process to complete. The 1st time you go through the pairing process for new sensors, the process will take approx. 3-5 mins, however this is a one off process and every other time will be closer to 50 secs.

During this 50 secs, you should:

- Mark the PSIS for fitment of the lower sensor (see steps 9-11, page 16)
- Prepare the skin for fitment of sensors (see steps 12-13, page 16)
- Prepare DAPs for the appropriate sensors (see step 14, page 17).

Thus when the pairing process is finished you will be ready to attach the sensors.

At any time during the pairing process you can double click on the spinning wheel and the ViLive software will give you a progress report on what stage the pairing process is at.



9. The key to sensor fitment is correctly fitting the lower movement sensor; this sensor sits at the S2 level and uses the anatomical landmark of the posterior superior iliac spine (**PSIS**).

Locate the PSIS's by first finding the superior aspect of the iliac spine with your index fingers. Generally the PSIS are then approximately at the level of your thumbs.

On patients with less body mass, the PSIS can be located via the 'dimples of venus' which are very obvious indentations at the level of the PSIS



10. Using the pen supplied mark both the PSIS with a small olive shape.



11. Using the fitment template draw a horizontal line through the middle of the 2 olive shaped markings.



Then draw a small vertical line along the spine just above the horizontal line.



12. Ideally the area where the sensors are to be fitted should be free of hair. This is particularly important over the area where the EMG sensors are placed. It will allow for the best transfer of electrical signals from the erector spinae muscles.

This area can be clipped using an electric trimmer or shaver where required.



13. If the patient has sensitive skin, you can use the skin protective spray or wipe on the area where the lower and upper sensors will sit.

It's important to note that this protective spray cannot be used where the EMG sensors are going to sit as it could interfere with the electrical signal.

If you are using the DAP-E's you should clean the area where the EMG sensors are going to sit with the alcohol wipes. This is at the L3 level of the spine.

For both the area for the protective spray and the alcohol wipes, you can use the fitment template to help guide you to the right area.



14. Remove the Disposable Application Pads (DAPS) from their packet by tearing the top off. You will need one packet of DAP-E units and one pack of DAP-M units (there are two in each pack) depending on the type of sensor configuration you have chosen.

If you are using the new '30 minute' DAP-M's, follow the instructions on the pack to prepare these for use.

15. Unclip the sensors from the cradle. You do not need to wait until the sensors are found by the RFD before removing them although it is often best to do this the 1st few times until you are comfortable with the system.

To do this simply press down on the release mechanism with one hand and remove the sensor from the cradle with your other hand.

NOTE: It is important to remove the sensor immediately from the cradle; otherwise the sensor may return to its previous 'bootloader' status and break the connection between the RFD and sensor.

16. The final step before fitting ViMove is to clip the sensors into the disposable applicators.

The large clip is fitted first, then the two smaller ones are clipped in place by pressing firmly down on the sensor with both thumbs. You'll hear an audible click as the sensor sits in place.



17. Repeat this for the other sensors, using the appropriate size DAPS for the movement and EMG sensors. The sensors are now ready to be fitted to the patient.

18. Once you have completed steps 9-17 (pages 16-17), look back to the PC screen and you should see this screen. It will confirm the sensors are configured, paired and ready to be fitted.

It will show you the amount of charge in the lowest charged sensor and the RFD. If the sensors or RFD are not charged enough for you to complete your session, simply click on the subject home screen , click the sensors back into the cradle, connect the RFD and wait for them to charge sufficiently. The sensors and RFD need about 10 minutes of charging for each hour of battery life required.

You will also notice the sensors in the cradle will now have a quick flashing white light (no longer slowly flashing between green and white)

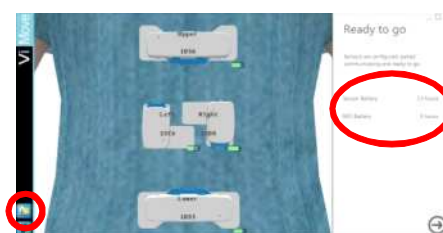
If any of the sensors have not been found by the RFD a  symbol will appear on the sensor, the system will ask you to place the sensor back into the cradle. If the sensor is already in the cradle remove it for 1 second and then place it back. If you accidentally remove the wrong sensor from the cradle, leave it out; do not place it back into the cradle.

If the sensor is still not being found, refer to the *Troubleshooting* section of the instructions for use (steps 99-101, pages 50-51).

When the sensors are 'Ready to go' press .

The appropriate size template to use will appear (based on the subject's height you entered in their profile).

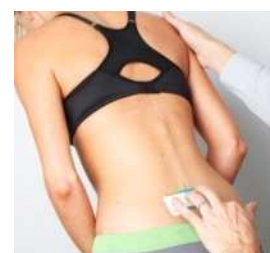
The sensor to be fitted will be highlighted on the screen, and this sensor will be flashing its white LED to distinguish it from the others. The 1st sensor to be placed is the lower MDM



19. Peel the backing off the sensor, holding the sensor as in the picture. Place the top of this lower sensor gently on the skin, in line with the horizontal line you've just drawn (the top of the sensor, not the top of the DAP). The vertical line will sit in the middle of the 2 prongs on the DAP. Only use enough force so that the sensor sits in place by itself. DO NOT push down firmly at this stage.

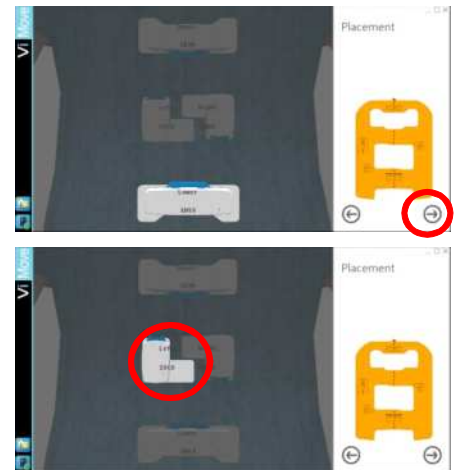
Get the patient to bend forwards and then press firmly down on the sensor. This way the patient's skin is in a stretched position prior to final adhesion.

If the patient is experiencing pain whilst leaning forward, ask them to lean on a desk or bench to achieve a level of flexion whilst maintaining comfort.



20. Once the lower sensor is in place, press .

Depending on whether you had chosen a 4 sensor or 2 sensor set-up, either the left EMG MDE will be the next to be fitted or the upper MDM.



21. Now place the fitment template on the lower sensor, making sure the top arrow on the template is in line with the spine.



22. Using the template as a guide, place the left EMG in place. As before get the patient to bend forwards and then press down firmly to adhere the EMG sensor to the skin.

Ensure you have taken all the plastic backing off the EMG sensor before placement. A common issue is leaving half the backing on the DAP which will interfere with the EMG signal.



Repeat this process for the upper movement sensor (3rd sensor fitted) and the right EMG sensor (4th and last sensor), pressing the  icon to move through each stage. Remember to do the final adhesion of the sensors in a flexed position.



23. Once all sensors are in place, press 

NOTE: If required, reinforce the edges of the DAPS with Fixomull Stretch tape. This is often required if the person sweats a lot or it is a hot day and the person will be working outside.

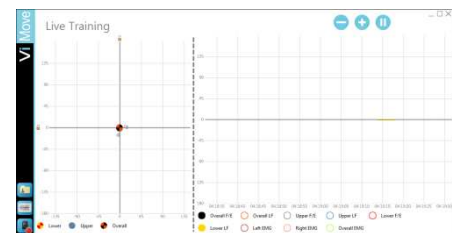
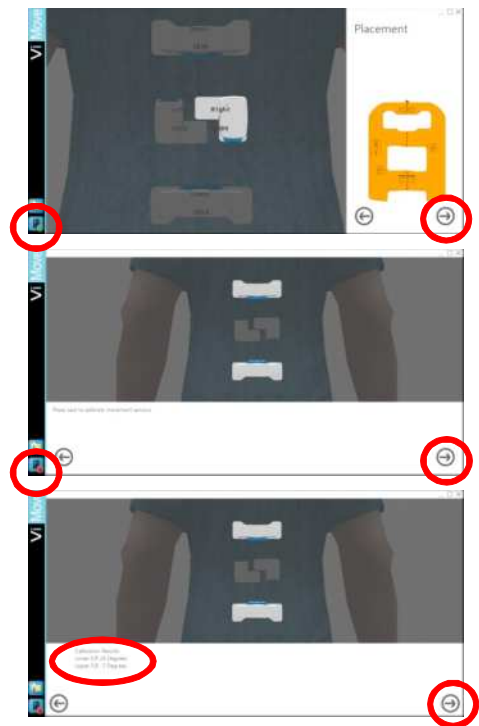
You may notice the RFD status has changed from the icon on the bottom left hand side of the screen. Up until now there has been a green tick on the RFD icon (which indicates it is connected to the computer), however it has not changed to have a red 'recording' symbol. This indicates the RFD is now recording information from the sensors.

The final step before viewing data is to calibrate the system to the subject's normal relaxed standing posture. It is from this position that all subsequent movement will be measured. Get the patient to do 4 to 5 steps on the spot, bend forwards, bend backwards and then relax. This normally leads to them standing in their most usual standing posture. Avoid saying the words 'normal standing posture' as inevitably the patient will alter their posture in some way.

Press  and the system will record the MDMs (movement sensors) position in relation to gravity.

Once this has been capture ViMove will show the angle of each of the sensors during the calibration process. The difference between the upper and lower sensor is the subject's lordosis.

Press  and depending on which type of session you choose initially, the screen will either be showing you live data (Live Training: as per the screen shown, Live Assessment see page 20 or Hang Gliding see page 37), the Monitoring (see page 25) or Biofeedback (see page 31) set-up screens.



LIVE Assessment

During a LIVE Assessment, the software guides you through a series of movements and postures.

It then provides an easy to read objective report, including range of movement in degrees.

This takes the guess work out of objective assessments and gives you greater analysis of movement patterns and postures.

Clinicians using the ViMove system have gained new and valuable insights about how the lumbar spine moves, relative to the hips, through using LIVE assessment.

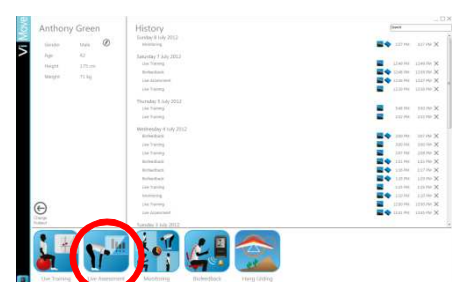
It also provides parameters to set alerts when using the Biofeedback applications, as well as a reference point for movements recorded outside of the clinic.

24. You can either start a Live Assessment by choosing Live Assessment during the set-up instructions, or at any time once a session has been set-up for that particular patient. You can even do a Live Assessment at any time whilst a monitoring or biofeedback session is taking place

If starting from scratch, follow *Initial session* set-up instructions (clicking on the Live Assessment icon during step 5 (pages 12-12)) and *Sensor selection and fitment* (pages 14-20).

If you choose to do a Live Assessment after completing a Live Training session; or during a Monitoring or Biofeedback session, simply click on the

Step 5



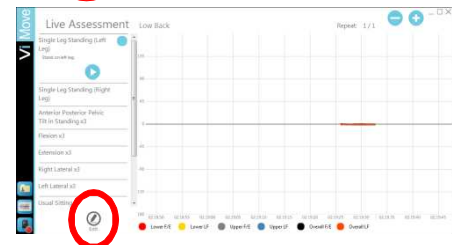
Live Assessment icon from the subject home screen.

The following screen will now appear. The list of possible postures and movements you can capture will appear on the left hand side of the screen.

For an explanation of what each line represents on the screen, please refer to *Interpreting LIVE data* (pg 46)

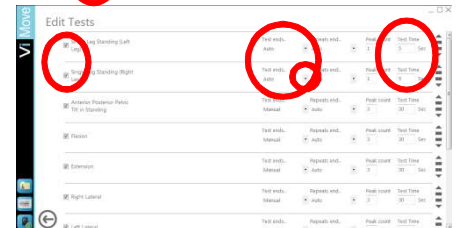


25. You can edit this list at any time, removing tests, making tests or repeats end manually or automatically, changing the number of repetitions (peak count) or the test time and re-ordering tests. To do this click on the edit button.

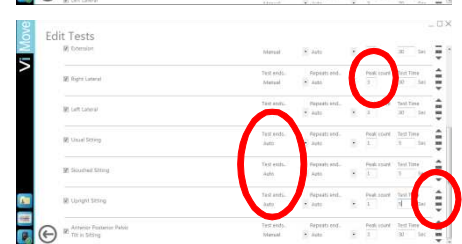


Let's go through each of these options:

- To remove a test from the list, simply click on the tick within the box (on the left hand side of the screen) and it will no longer be tested. If you decide later you wish to include it you can always add it back in
- Test ends: You can either have tests end automatically or manually. For tests such as single leg standing (left and right) and sitting (normal, upright and slouched) it makes sense to have them end automatically as you only need to capture your patients in this position for set period of time. It is for these automatic test ends that you need to be sure you have the correct test time entered (see below).



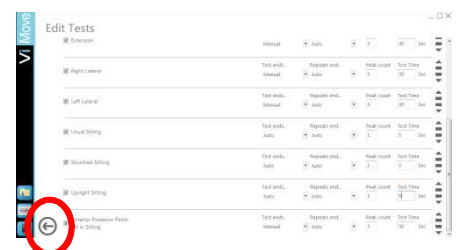
To make a test end automatically, simply click on the drop down box and choose 'Auto'.



- Repeats end: Generally this is kept on Auto for all tests. If you change this to Manual, it means you need to stop recording data after each repetition which adds to the data capture time. To change repeats end, simply click on the drop down box and choose either Manual or Auto.
- Peak count: This is the number of repetitions performed. For the tests ending automatically this will be 1. For all others we recommend a minimum of 2-3 peak counts. To alter this click on the box and write in the desired number.
- Test time: This is only relevant when a test is ending automatically. 5-10 secs is the recommended time for these tests. To alter this click in the box and write in the desired number.

- Re-order tests: left mouse click on the up and down arrow on the right hand side of the screen. Hold down the left mouse and then move your cursor to the desired spot for this test.

Once you are happy with the edits you have made click on the back button and you will return to the Live Assessment home screen.



26. You are now ready to capture data.

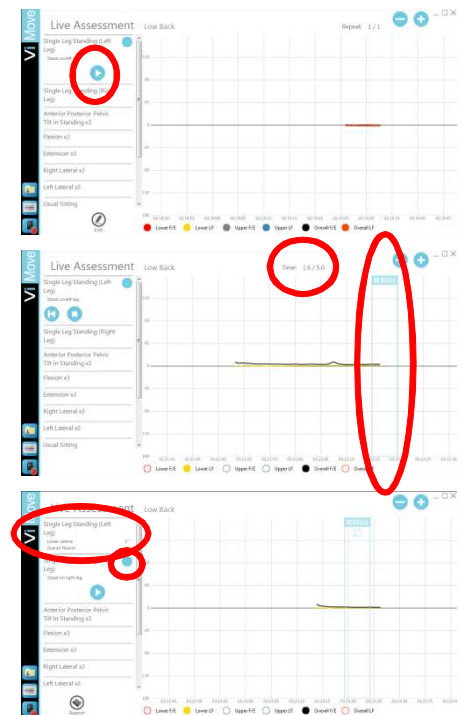
Single leg standing (left leg): get the patient to stand on their left leg before you start recording. Once they are in position, press the start button .

A blue box will appear on the screen, indicating data is being recorded for that particular activity. In this case the box will appear for the time you entered in the 'edit' screen. If you are in any doubt as to the length of this time, look at the time indicator in the middle-top of the screen.

When the time is up (if the test ends automatically), or you end the test manually, the lines showing data will no longer be within the box. This indicates the data on the screen is no longer being recorded by ViMove.

The system automatically moves to the next test. The data captured for the previous test is summarised on the left hand side of the screen as well as within the blue box.

You will always know which test is next to be recorded (or being recorded) as there will be a blue circle  beside it.



27. Single leg Standing (Right Leg): get the patient to stand on their right leg before you start recording. Once they are in position, press the start button .

If you have set this test to end automatically, after 5-10 secs it will finish recording and move onto the next test.



28. Anterior Posterior Pelvic Tilt in Standing: This test involves the patient tilting their pelvis anteriorly to their maximum tilt, then posteriorly to their maximum tilt. During this movement they should try and keep their trunk still so the movement is occurring at the pelvis.

Do this 3 times (our recommendation) i.e. alternating from anterior to posterior – anterior to posterior – anterior to posterior. You can ask the patient to hold each movement for a sec or two if required but this is not necessary. Either way you should get a sine wave pattern of the red line.

Start recording prior to their 1st anterior tilt. You can do this by either pressing the start button  or the quicker way to do this is to use the space bar. The space bar can be used to either start and/or stop recording.

You will need to manually stop recording at the end of the 3rd posterior tilt. Do this by either pressing the space bar or use the stop button .

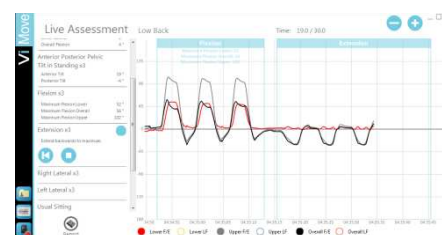


29. Flexion: Ask the patient to stand upright and flex forward as far as comfortable without bending the knees, hold for 2 secs and then return to their upright standing position. 3 repetitions.

Start recording prior to the initiation of the movement and end recording a few seconds after the completion of the last movement.



30. Extension: Ask the patient to fold their arms across their chest and stand upright. Bend back (extension) as far as comfortable, and then return to standing position. There is no need to hold this position (unlike flexion or lateral flexion). 3 repetitions.



31. Lateral flexion (Right and Left): Ask the patient to stand upright with arms along the sides of their body. Bend sideways (flex laterally) and slide their arm along the leg as far as comfortable, hold for 2 secs and then return to standing position. 3 repetitions for each.

Do 3 right lateral flexions 1st (one test) and then 3 left lateral flexions 2nd (separate test).

For right lateral flexion the lines will go above the X axis, for left lateral flexion they will go below.



32. The plus and minus icons on the top right of the screen allow you to zoom in and out on the data.

If you need to start data capture again for any reason (perhaps because the patient has moved in the wrong direction or simply not performed the movement well) then the back button is the best way to do this efficiently.



By clicking on the back button the blue box is moved to the right from its original starting position. Any data captured to this point is erased and data capture starts again. You can press the back button as many times as needed. As with any other data capture, once you have finished capturing the desired movement either press space bar or the stop button.

The other way to re-capture data for a particular test (if the data capture has already finished) is to simply left click on the test again and press play. See step 37, page 25.

33. Sitting (normal, slouched and upright): These are best done as automatic finishing tests. The patient should sit about ¾ of the way onto the seat (not against the back of the seat).

As with the initial calibration (step 23, page 20), avoid the words 'normal sitting position' as inevitably the patient will alter their position. Just ask the patient to sit on the chair and in most cases the patient will sit as they normally do.

Slouched sitting just ask the patient to sit in their relaxed or slouched posture and for upright sitting as straight as they can.



34. Anterior Posterior Pelvic Tilt in Sitting: This is the final Live Assessment test. Ask the patient to sit in the chair with back unsupported (like for their normal sitting). Place their hands on their hips and tilt forward (anterior) and back (posterior). The patient must attempt to initiate and control the movement from their pelvis while avoiding trunk movement.

3 repetitions, alternating from anterior to posterior – anterior to posterior – anterior to posterior. You can ask the patient to hold each movement for a sec or two if required but this is not necessary. Either way you should get a sine wave pattern of the red line.



35. Pain: Throughout the data capture for any of the tasks listed above you can flag when pain occurs. To do this either press any number between 1-9 on your keyboard to indicate the pain level (1=least pain, 9=greatest pain). If you keep the number pressed it will highlight the screen with a red box for the period of time the button is pressed.



36. Report: As the data capture has been completed for each test you can either look at the raw data for each test or view a summary report.

To view the report, click in the report icon  on the bottom left of the screen.

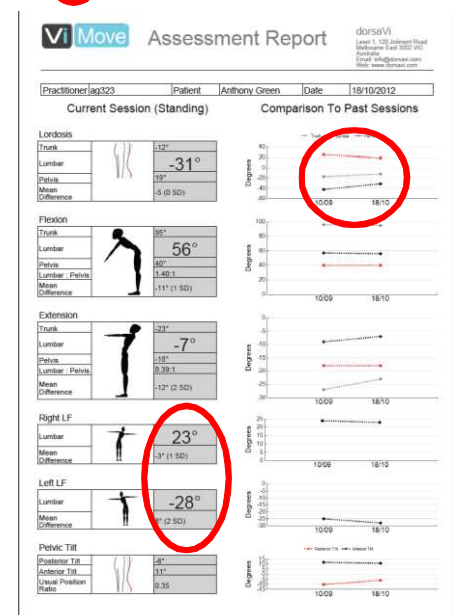


A Pdf report will be created, summarising all the postures and movements performed, including the patient's lordosis. As you look at this report remember the lordosis becomes the reference position or the 'zero' position and all the postures and movements are then measured as the number of degrees from 'zero'.

The report also allows you to compare the results from multiple reports. In this example it compares the movements recorded on the 10/09 with those recorded on the 18/10. In this way you can show the patient (or other healthcare professionals) how their movement has changed over time.

If you see something in the data that appears to be clinically relevant or might have been captured incorrectly (in this example a 5 degrees difference between right and left LF), you can go back and re-capture this data again. By re-doing the test it will allow you to validate the data as being an accurate representation of the way the patient moves. See step 36 below

For more information on how to interpret the information in Live Assessment reports, refer to *How to read a report* on page 42



37. Re-capturing data: If there is any postural position or movement you wish to re-capture data for, simply close the Pdf report (if you have one open) and click on the appropriate test. It will show you the data previously captured. If on reviewing this data you wish to repeat the test, click on play .

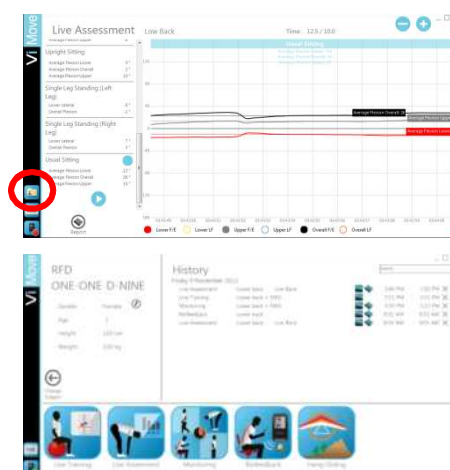
The previous data is erased and the system will start recording new data. Repeat the initial movement as per the original instructions and then press either the space bar or stop button when completed. The new data capture will be summarised as with any previous test. If you click on the report icon  again it will update the report with this 'new' data capture.

As long as you stay within the current Live Assessment session you can re-capture data as many times and for as many tests as you like.

Only when you close down this Live Assessment session will the report be locked. Once the session is closed, you can no longer go back and re-capture data. However you can always review the data as it will be recorded in the patient's history. To view this data, refer to the *Patient History* section of the instructions for use (page 40)



38. Once you are satisfied the Live Assessment has been completed, click in the subject home icon  and you will be returned to the patient's home page.



Monitoring session

The monitoring session is usually conducted as one of the first session to understand the way the patient moves during a normal day. Patients usually wear ViMove for 6 to 10 hours outside the clinic. Prior to wearing the device outside the clinic you need to perform a Live Assessment at least once, otherwise you are unable to start a Monitoring session. This is important as a full Live Assessment prior to a Monitoring session allows you to compare the patient's movements and posture in the clinic environment with those in the 'real world'. dorsaVi encourages you to do a new Live Assessment before each Monitoring or Biofeedback session so you are comparing the patient's movement as it is on the day they are wearing ViMove. However it is not essential to do this as long as there is at least one previous Live Assessment in the patient's history.

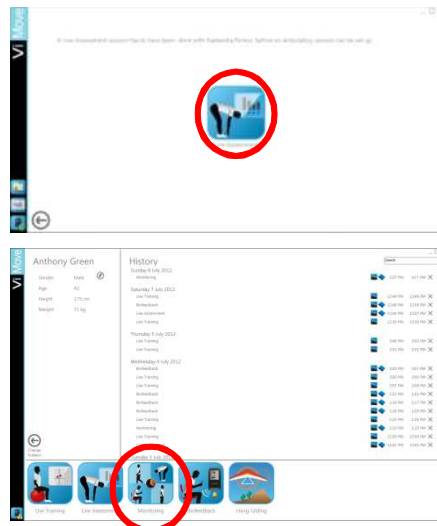
The majority of Monitoring sessions are completed with the 2 MDM sensors only as EMG activity does not appear in the report. However you can view the raw EMG data for the entire Monitoring session and this may be of value. It is your choice as to whether you use EMG sensors for a Monitoring session.

39. You can either start a monitoring session by choosing Monitoring during the set-up instructions, or at any time once a session has been set-up for that particular patient.

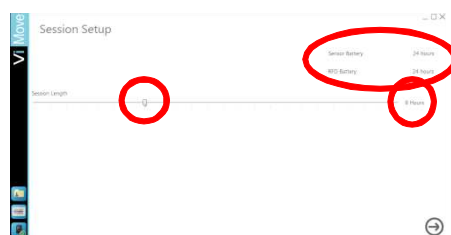
If starting from scratch, follow *Initial session* set-up instructions, clicking on the Monitoring icon during step 5 (pages 12-13) and *Sensor selection and fitment* (page 14-20).

If you have not performed a Live Assessment session for the subject you wish to perform the Monitoring session, this screen will appear and you will need to do a Live Assessment session before ViMove will allow you to activate a Monitoring session. Click on Live Assessment and follow the instructions for steps 25-38 on pages 21-25.

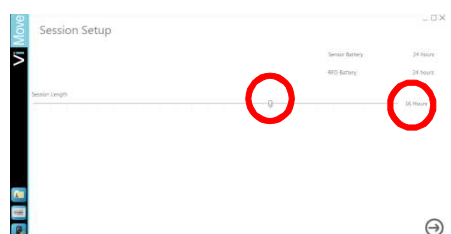
If you have performed other sessions 1st and then wish to do a Monitoring session, simply click on the Monitoring icon whilst in the Subject Home view.



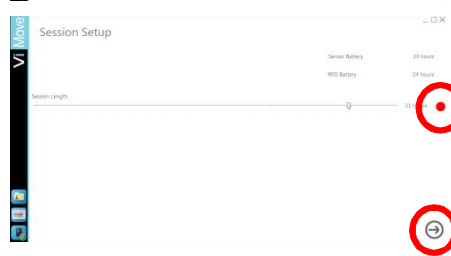
40. You will now see the Monitoring set-up screen. ViMove will tell you the battery life of both the sensors and RFD. You can set the length of the Monitoring session on this screen. The default time is 8 hours. If you choose to set the session for 8 hours, after 8 hours of wearing ViMove the session will end (see step 96, page 49)



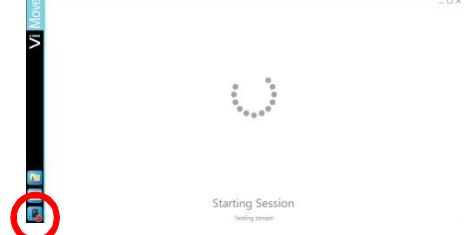
You can alter the time of the session by placing the cursor over the slider holding down the left mouse button and moving it either left or right. The new time will appear listed beside the timeline.



If you choose a length of session which is longer than either the battery life of the RFD or sensors, a red dot will appear at the end of the timeline. The system will still allow you to set up a session for this length; however the battery may run out before it is finished. dorsaVi encourages you to only set session lengths that have sufficient battery life to complete.



Once you are happy, press  and ViMove will start to initiate the session. You will see the RFD status change to recording (bottom left hand side of the screen).



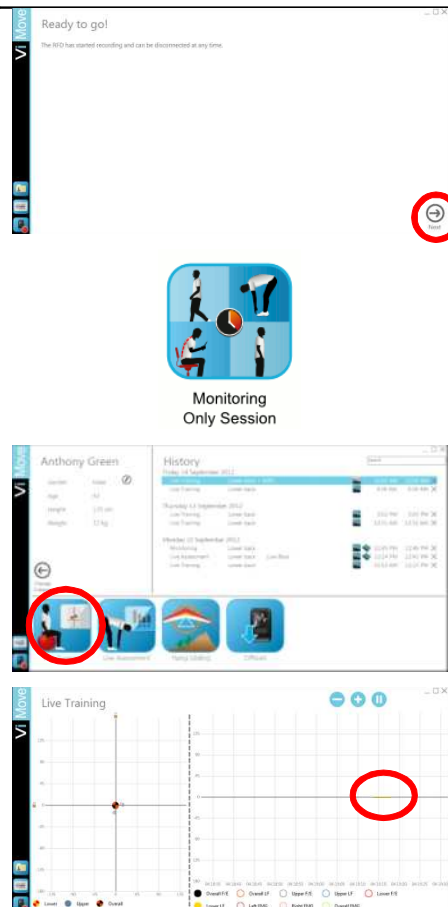
When the session has started, you are 'Ready to go!' and the RFD can be disconnected at any time.

Always get in the habit of pressing next  once you have disconnected the RFD from the computer.

The following screen will appear on the RFD and this will be the only screen the subject sees for the remainder of the session.

It is always a good idea to ensure the system is measuring the patient's normal standing position as zero before they leave the clinic. That way you are sure any data in the report is based off an accurate starting position. You can do this by connecting the RFD via USB to the PC, click on the Live Training icon and as long as the overall flexion line (black) and overall lateral flexion (orange) are on zero when the subject is in their 'normal' standing position you can disconnect the RFD and send the patient on their way.

If the black and orange lines are not measuring zero in their normal standing position, you will need to re-calibrate. To do this refer to step 50 (page 31). Then disconnect the RFD from the PC.



41. Now have the patient place the RFD in their pocket or pouch. ViMove will collect movement data for the remainder of the day.

Be sure to remind the patient to keep the RFD on them at all times during the day.

Encourage the patient to return the device at the end of the day. This way it can be charged overnight and used on another patient first thing the following day. The patient is now free to leave the clinic.

It is always a good idea to exit ViMove once you have finished a session. To do this simply press the 'X' in the top right hand side of the screen. You will be asked to confirm you wish to exit ViMove. Press the OK  button.



42. Refer to steps 70-72 (page 39) for instructions on how to offload your Monitoring session.

LIVE Training

The system allows for Live streaming of movement data onto your COMPUTER screen.

Patients can actually see their own lower back movements giving them immediate visual feedback and a greater understanding of how they are moving.

This allows them to alter their movement patterns and posture whilst receiving immediate feedback. They begin to understand what poor movement and posture is and how they can be improved. They are also able to practice optimal movement patterns, again with immediate feedback.

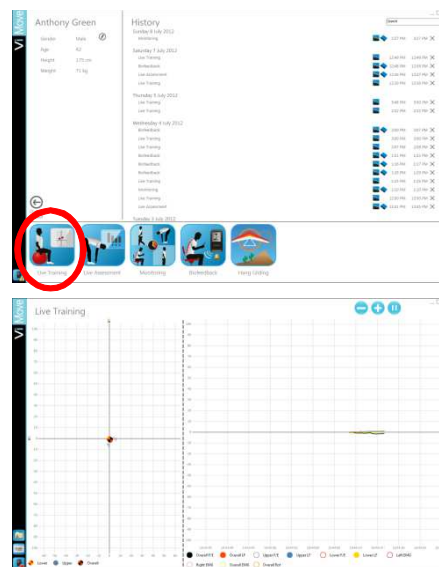
43. You can either start a Live Training session by choosing Live Training during the set-up instructions, or at any time once a session has been set-up for that particular patient. You can even do Live Training at any time whilst a monitoring or biofeedback session is taking place

If starting from scratch, follow *Initial session* set-up instructions (clicking on the Live Assessment icon during step 5 (pages 12-13)) and *Sensor selection and fitment* (page 14-20).

If you choose to do Live Training after completing a Live Assessment; or during a Monitoring or Biofeedback session, simply click on the Live Training icon from the subject home screen.

The following screen will now appear.

You will have live data appearing on the computer screen both as a line graph (right hand side) as well as a ball chart (left hand side).



44. Generally the data in Live Training is viewed either in the line graph format or ball graph.

To alter the view you are seeing, left click on the dotted line in-between the 2 graphs and whilst holding the left mouse down, drag the cursor in either direction. Left to show only the line graph or to the right to show only the ball graph



45. Line graph only:

This view is generally used by the clinician to diagnose movement pattern disorders or movement timing issues. It can also be useful to provide feedback to patients but can be confusing. The ball chart view is better for this.

To change the data being graphed, click on the desired parameter within the legend at the bottom of the screen. When it has been selected, the ball beside it will be filled with the colour of the line being shown eg Lower F/E shows a red line on the graph and a red ball will appear beside Lower F/E in the legend.

For an explanation on what each line represents, refer to *Interpreting Live data*, page 46.

If you want to remove a parameter, click on it within the legend. The line will no longer be shown and the ball beside the parameter will no longer be filled with colour.



46. Pausing and zoom:

At any time during Live Training you can pause  the view which allows you to further analyse the data you are seeing. In this view (as well as when you are viewing data being streamed live) you can zoom in by using the   buttons.

During the pause mode you can go back and review any data previously captured in the Live Training session. To do this hold down the left mouse button and slide the cursor to the left. Keep doing this until you find the data you are looking for. You may find the time line on the bottom of the graph helps you find the right piece of data if you are aware of when it occurred during the session. As described above in step 45 you can click on any parameters you like from the legend to see the appropriate sensor and direction of movement.

In pause you can also zoom in by holding down the right mouse button on the top left hand corner of the data you want to look at and move the cursor down and to the right. This will create a black box around the data and once you release the right mouse button this section will be shown on the screen. To return to the previous view just press the  zoom button.

Whilst the system is paused it is continuing to record data.

To start seeing live data again, just press the play  button.

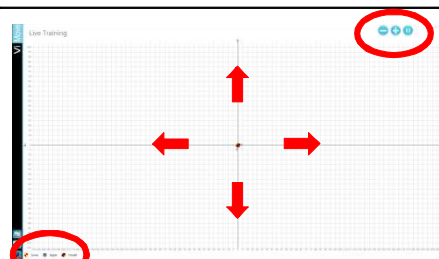


47. Ball Chart:

This view is best used to help patients improve their movement patterns. It is a simple and effective interface where the upper and lower sensors as well as the overall movement are represented by a ball on the chart.

When the ball moves up the chart from zero this represents flexion, below zero extension, left of zero is left lateral flexion and right of zero is right lateral flexion. It is intuitive to the patient unlike the line graph view.

Like with the line graph view you can zoom in or out  , pause  and show whichever ball you would like by clicking on the desired parameter on the bottom left of the screen



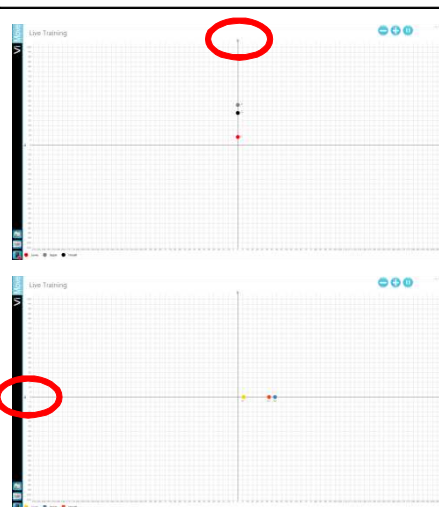
48. Locking an axis:

If you are looking to train movement in the sagittal plane only, it is often useful to lock the lateral axis so the patient concentrates on movement in one plane. This is done by clicking on the padlock  which appears on the top of the y axis. When this is activated, the balls will change from a 2 coloured ball to a single colour (i.e. the lower sensor will change from a red and yellow ball to a red only ball). Now if the patient moves laterally, the ball will not deviate off the y axis.

If you want to focus on only movement in the coronal plane then you can lock the sagittal axis. Just click on the padlock to the left of the x-axis.

To unlock, just click on the locked padlock .

In the ball chart view, you can use the circles to give patients a target to aim for. This is especially useful in anterior and posterior pelvic tilting.



49. Circle and oval targets:

In the ball chart view you can draw circles to highlight to patients their

available movement or give patients a target to aim for. This is especially useful in anterior and posterior pelvic tilting.

To draw a circle on the ball chart you use the right mouse button. With the cursor on the top left hand edge of where you want the ball to be positioned (indicated by the right arrow), hold down the right mouse button. With it held down, draw the cursor down and to the right to create the shape you desire. Then release the right mouse button. The shape will stay on the screen. If you zoom in or out it will also zoom in or out with the axis.



In this example we have chosen to highlight the patients available pelvic tilt range. They have moved to their full anterior tilt first and as they have moved to full posterior tilt we have used the process above to draw an oval shape that represents this movement. The patient has a great visual of their range, with 0 representing their 'normal standing position'.

You can draw as many circles or ovals on the ball chart as you desire. To remove a shape, right click on any part of it and it will disappear.

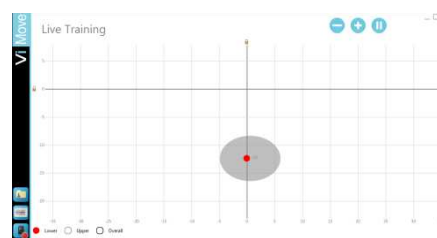
You can have a shape within a shape as well. To add in the additional oval shape in this example, I have started the 2nd oval shape just outside the edge of the 1st one. If I had tried to draw it within the 1st oval, as soon as I hit the right mouse button the 1st oval would have been removed. As long as you start the 2nd oval outside the margins of the 1st then you are OK.



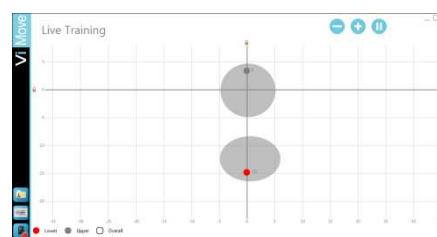
Drawing circles and ovals takes a little bit of practice, but once you get the hang of it you will find it a very simple process. It is also a very powerful tool to encourage patient's movements.

The following example illustrates many of the processes previously described. We are trying to encourage the patient to posteriorly tilt their pelvis.

Firstly we have locked the lateral axis by clicking on the padlock symbol above the y-axis. We have zoomed in, unclicked the upper and overall balls so we only have the upper sensor showing. To position the graph so we can concentrate on posterior tilting (moving into negative degrees) we have held the left mouse button down and dragged the cursor so the X/Y axis intersection is positioned to the top of the screen. Finally we have used the right mouse button to draw a circle/oval between -10 and -15 degrees.



The patient now moves into posterior tilt, attempting to get the red ball into the circle/oval shape. Once they are able to do this successfully and able to repeat it we bring in the upper sensor to ensure they are not tricking excessively to achieve the posterior tilt. This way we can isolate the movement to the pelvis.

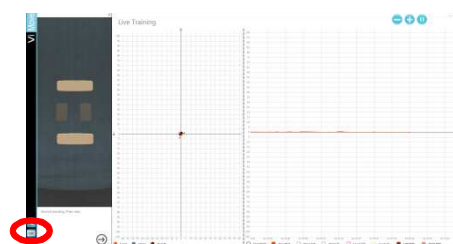


To do this click on the upper sensor (bottom left hand side of the screen). The grey ball will appear. Draw a circle from 5 to -5 degrees in height and width. Now get the patient to posterior tilt again, keeping their upper lumbar spine in a vertical position so the grey ball does not move outside of the upper circle you have drawn. This is a difficult movement to perform but a great way of encouraging isolated movements.

50. Re-setting to a new 'zero' position

Another great way of using Live Training is to reset the system to have a desired posture as the new 'zero' position. Whenever the patient is in this position, the system will show them with the balls or lines at 0 degrees of F/E or LF.

To do this, get the patient to hold the desired position (not their normal standing position). Left click on the calibration icon  on the bottom left hand side of the screen. Then follow the appropriate parts of the process described in step 23, page 20.

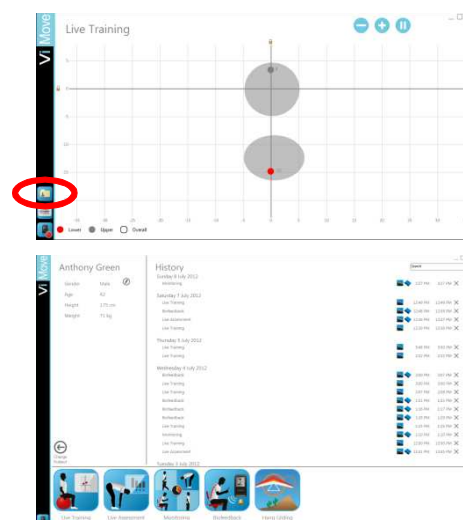


51. You can move between the line graph and ball chart as many times as you wish. This is especially helpful if you have had a patient practicing movement in the ball chart view.

With the system paused  you can move back to the line chart view and then scroll through the data to see if they have been able to move in the desired pattern you have requested them to. For instance if you had set a pelvic tilt goal of -15 degrees, and wanted the patient to not let their upper sensor move more than 5 degrees whilst they were doing this (as in the example above in step 49), you can see it they were able to achieve this. By having the lower F/E (red line) and upper F/E (grey line) showing you would look for the red line to reach -15 degrees and the grey line to stay within 5 and -5 degrees.



52. To finish a Live Training session click in the subject home icon and you will be returned to the patient's home page. The session you just completed will appear in the patient's History.



Biofeedback

Usually used as a treatment session following Monitoring and LIVE sessions.

ViMove with biofeedback is worn by the patient for a complete day away from the clinic at work or at home.

Biofeedback prompts the patient with a sound and vibration alarm when they're performing activities or maintaining postures that you have set as undesirable for their condition.

ViMove also prompts the patient to move if a predefined period of static behaviour is detected. The system also reminds the patient to perform specific exercises guided by you.

So, the biofeedback alerts remind and encourage the patient to move within their own personal safe limits.

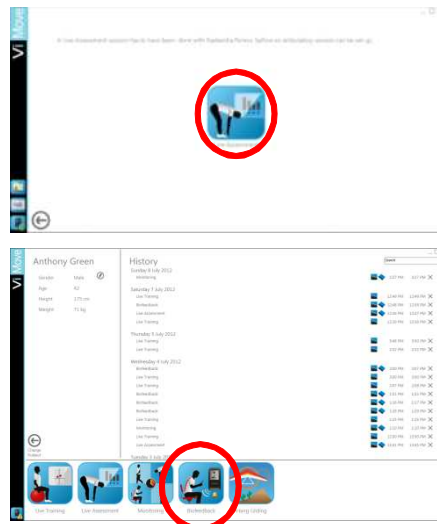
53. You can either start a biofeedback session by choosing Biofeedback

during the set-up instructions, or at any time once a session has been set-up for that particular patient.

If starting from scratch, follow *Initial session* set-up instructions (clicking on the Biofeedback icon during step 5) (pages 12-13) and *Sensor selection and fitment* (page 14-20).

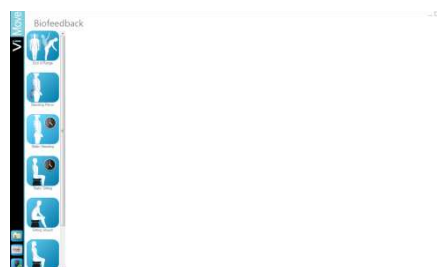
If you have not performed a Live Assessment session for the subject you wish to perform the Biofeedback session, this screen will appear and you will need to do a Live Assessment session before ViMove will allow you to activate a Biofeedback session. Click on Live Assessment and follow the instructions for steps 25-38 on pages 21-25.

If you have performed other sessions 1st and then wish to do a Biofeedback session, simply click on the Biofeedback icon whilst in the Subject Home view.



54. You are now ready to choose your alerts and reminders. Which ones you set will be dependent on your clinical judgment and what you have observed in previous LIVE Assessment, Monitoring and LIVE Training sessions.

Generally you would set no more than 3 different alerts in any one Biofeedback session; otherwise it can be confusing to the patient. Let's go through the process to set each of these.



55. End of Range Alert: Click on the End of Range icon on the top left hand side of the screen.

Choose the Live Assessment session you want to base the alerts off. The default will be the most recent Live Assessment session completed. If you wish to use a different session just click on the drop down symbol and highlight a different Live Assessment session date

You'll now see the patient's latest range of motion (ROM) chart showing their range of movement in flexion, extension and lateral flexion.

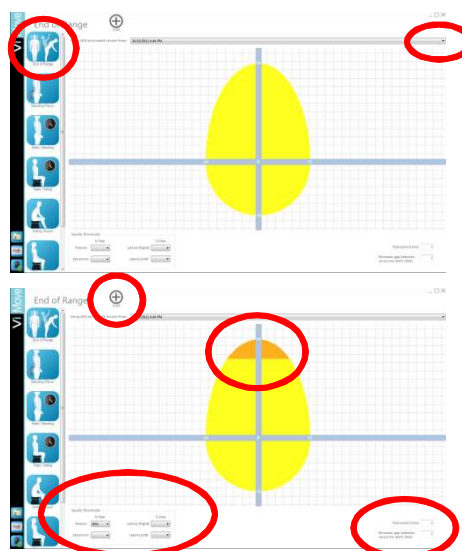
You can now set the % to end of range movement for all directions, restricting some or all directions of movement, eg: 80% of forward flexion. Generally you would only restrict movement in 1 direction.

The ROM chart will highlight the restrictions you have placed.

Time period is how long the patient needs to be in that restricted ROM before an alert will appear.

Minimum gap is the time between alerts. This is to avoid the patient receiving multiple alerts in a short period of time. If a patient is receiving alerts too often, they tend to ignore them and they are less effective.

When you're happy, press add ⊕ to set this alert.



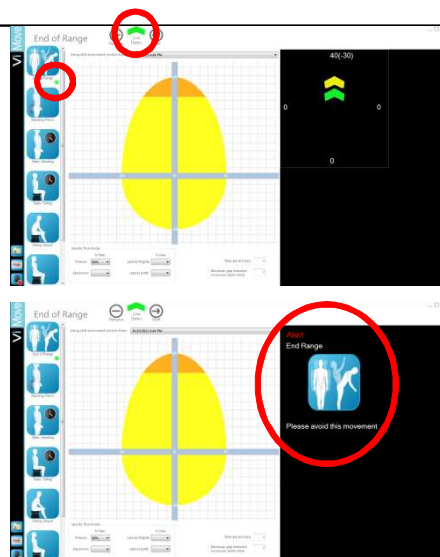
The following screen will appear. A green tick will show underneath the EOR alert. You can now perform a Live Demo by clicking on the icon at the

top of the screen. This will enable you to do 2 things.

- Show the patient the screen that will appear when they move too far in the direction you have set the alert
- Allow you the clinician to make sure you have set the alert to the appropriate level of restriction. Often you think you have set an appropriate alert, however when the person performs the movement you see you have either set the alert too tight or not tight enough. If you think the alert needs to be altered, simply change the % and then get the patient to perform the movement again. You can do this as many times as you like until you get the % right.

The demo function does not take into account the time period for the alert, nor the minimum gap between alerts. It will go off as soon as the patient reaches the appropriate ROM.

Once you are happy with the alert settings, you can move on to set another alert or reminder or start the Biofeedback session. To start the Biofeedback session, refer to step 61, page 35

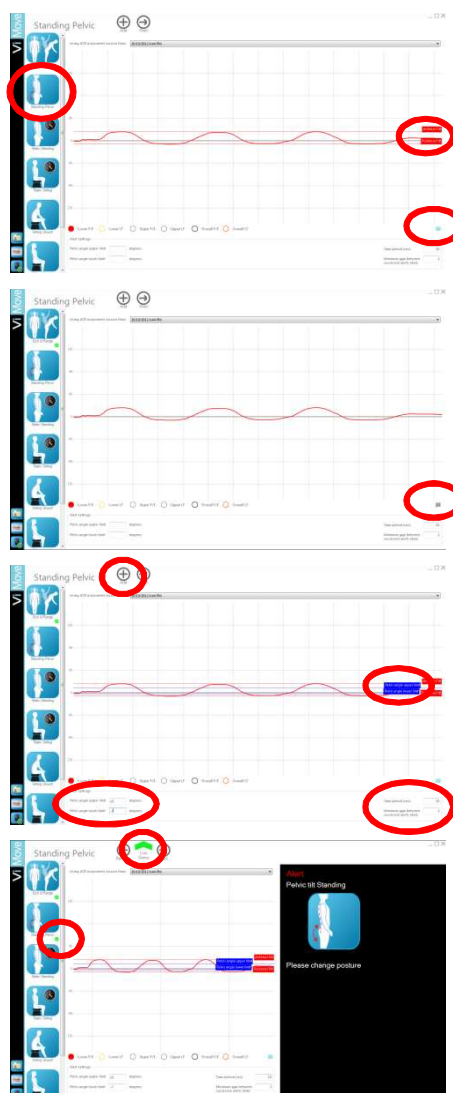


56. Standing Pelvic alert:

Click on the Standing Pelvic icon on the left hand side of the screen. The pelvic tilt range achieved in the most recent Live Assessment is shown. The red sine wave line depicts this, with the maximum anterior and maximum posterior degrees of movement shown in the red boxes on the right. 0 degrees is the patient's 'normal standing' pelvic position.

You can remove the boxes highlighting the maximum movement at any time by clicking on the light blue flag on the bottom right hand side of the screen.

To bring the boxes back, click on the grey flag.



You're able to set the upper and lower limits of the pelvic angles. These parameters are represented by the blue dotted lines and blue box.

Time settings are set as per step 55 (page 32).

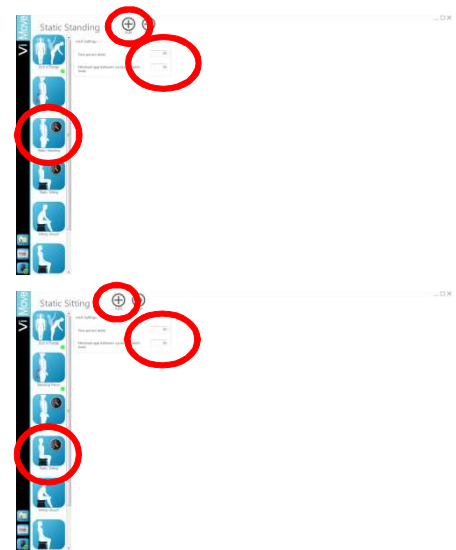
Once again when you're happy, press the add (+) button to set this alert.

A green tick will show underneath the Standing Pelvic alert. You can now perform a demo by clicking on the Live Demo icon.

57. Static Standing and Sitting alerts:

Click on either the Static Standing or Static Sitting icons on the left hand side of the screen. You set the maximum static time for each (time period) and the time between successive alerts.

Click add  to set each alert.



58. Sitting Slouch alert:

Click on the Sitting Slouch icon on the left hand side of the screen. The slouched sitting results achieved in the most recent Live Assessment are shown. The values for overall lumbar, (black line), pelvis, (red line) and Thoraco/lumbar (grey line) are plotted.

You'll set the alert based on the overall lumbar spine flexion or the amount of posterior pelvic tilt. You can't have both.

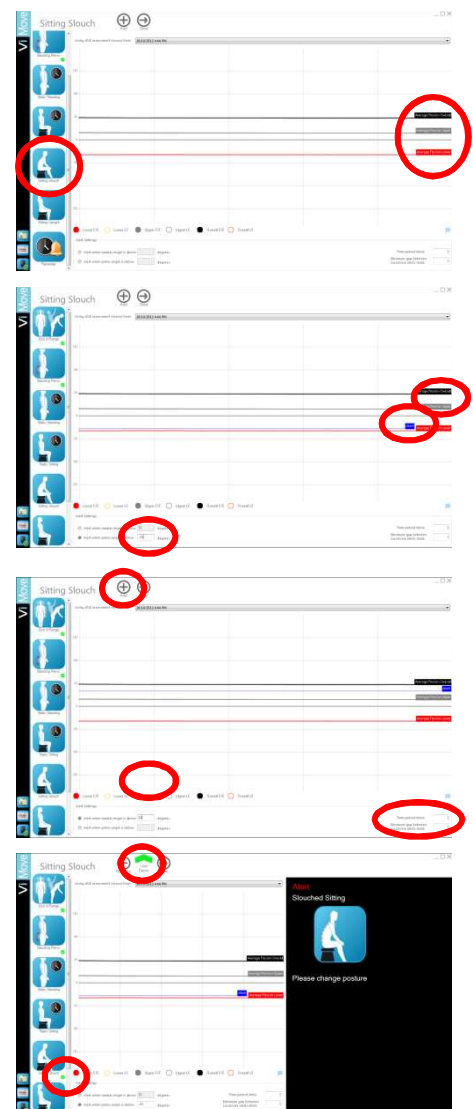
You would set the alert based off the pelvis position if you feel the patient's slouched posture is being driven by their pelvis position. Let's say you set the alert for -30 degrees. The patient would need to keep their pelvis in less than 30 degrees of posterior tilt to ensure the alert is not activated (i.e. -25 degrees is OK, -32 degrees would set off the alert).

If you feel the patients slouching is being driven by their upper lumbar spine position then you would choose to set the alert off the overall lumbar spine position. If you have set this at 30 degrees then the alert would be activated if the patients overall lumbar spine position is more than 30 degrees of flexion.

Then set the appropriate time settings.

Once again when you're happy, press the add  button to set this alert.

A green tick will show underneath the Sitting Slouch alert. You can now perform a demo by clicking on the Live Demo icon.



59. Sitting Upright alert:

Click on the Sitting Upright icon on the left hand side of the screen. The upright sitting results achieved in the most recent Live Assessment are shown. The values for overall lumbar, (black line), pelvis, (red line) and Thoraco/lumbar (grey line) are plotted.

You'll set the alert based on both the overall lumbar spine flexion and the amount of posterior pelvic tilt. This is different to the slouched sitting alert.

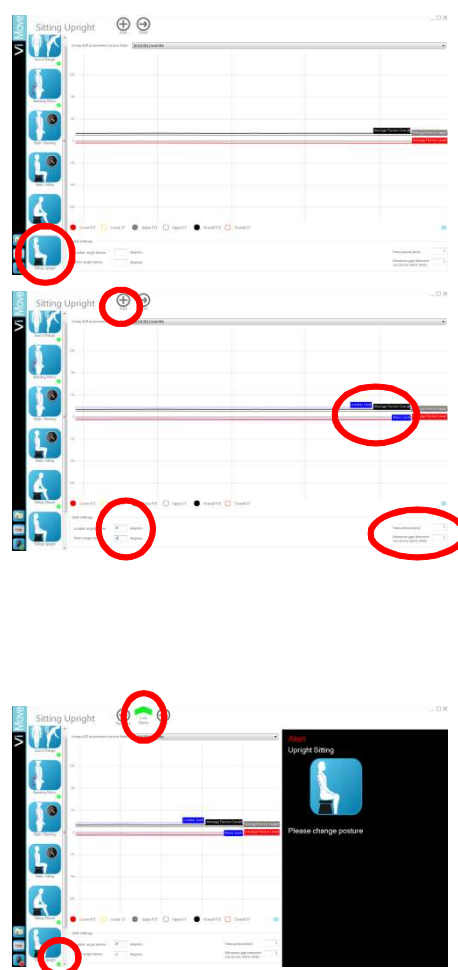
You would generally have an upright sitting alert or slouched sitting but not both. Which one would depend on how close the patient's normal sitting position is to either their upright sitting position or slouched sitting position. If you are unsure you can look at the patient's most recent Live Assessment report.

With Upright Sitting both the overall lumbar spine position and pelvis angle parameters need to be met before the alert will be activated. So if you have set the lumbar angle for 20 degrees and the pelvic angle at -6 degrees, the patient would need to be sitting with their lumbar spine in less than 20 degrees of flexion and their pelvis would need to be close to their full anterior tilt. So 18 degrees of flexion of the lumbar spine and -5 degrees of anterior tilt would set off the alert.

Set the appropriate time settings.

Once again when you're happy, press the add  button to set this alert.

A green tick will show underneath the Sitting Upright alert. You can now perform a demo by clicking on the Live Demo icon. This is a very important step for this alert to ensure you have set the parameters correctly.



60. Reminder:

Used to remind patients to perform exercises you have prescribed for their condition. You have the flexibility to set how often this reminder will appear.

Press the add  button to set this alert



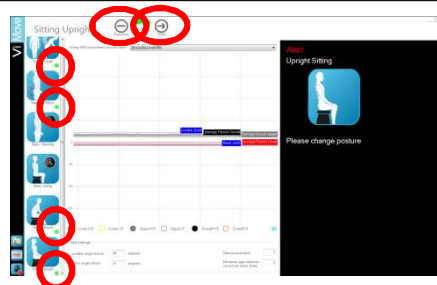
61. Starting your Biofeedback session: Once you've finished setting the alerts and reminders you can check and see which ones have been set. The ones you have set will have a green tick below them.

If you wish to remove an alert you can do this by clicking on the remove  button.

How many alerts you set will be dictated by each patient's symptoms and your clinical judgment. However, at least initially, try to have no more than 2 to 3 types of alerts in any one biofeedback session.

When you are satisfied with the alerts and reminders click on the start  button.

ViMove will tell you the battery life of both the sensors and RFD. You can set the length of the Monitoring session on this screen. The default time is 8 hours. If you choose to set the session for 8 hours, after 8 hours of wearing ViMove the session will end (see step 96, page 49)

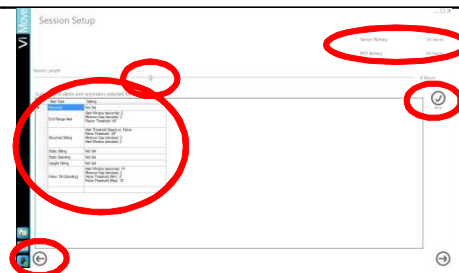


You can alter the time of the session by placing the cursor over the slider  holding down the left mouse button and moving it either left or right. The new time will appear listed beside the timeline.

If you choose a length of session which is longer than either the battery life of the RFD or sensors, a red dot will appear at the end of the timeline. The system will still allow you to set up a session for this length; however the battery may run out before it is finished. dorsaVi encourages you to only set session lengths that have sufficient battery life to complete.

You will also see a summary of the alerts that have been set. If there is an alert you don't wish to have, or one that you think should be there, you can click on the back  button and add or remove alerts as described previously.

Press on the print  button and a Pdf will be created summarising the alerts and reminders that have been set. You can print off or save this document as required.



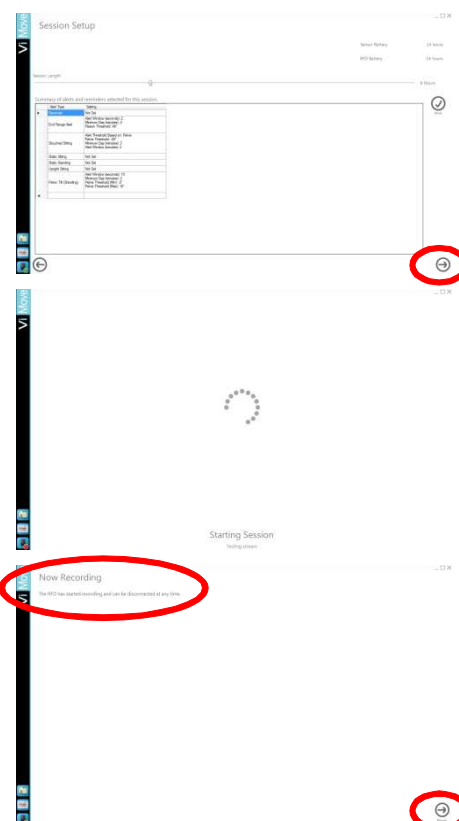
62. Session Setup:

Once you are happy with the alerts you have set and are ready to start the biofeedback session, press the next  button.

The following screen will appear. The session starting time is generally less than 5 secs.

Once the RFD starts recording data you will be asked to disconnect the RFD from the PC.

Press next  to return to the Subject home screen.

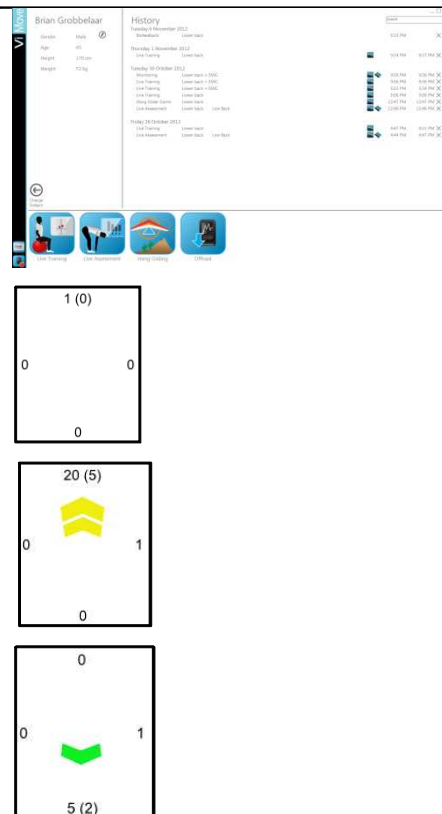


The session will be listed in the patient's history.

It is always a good idea to ensure the system is measuring the patient's normal standing position as zero before they leave the clinic. That way you are sure any data in the report is based off an accurate starting position. The RFD should be showing between 0-2 degrees in all directions. If it isn't, follow the directions in step 40, page 26 to alter this in Live Training.

It is also worth getting the patient to do some movements before they leave so you can talk them through the information that is being shown on the RFD screen. The number at the top of the screen is flexion, at the bottom extension, on the right is right lateral flexion and on the left is left lateral flexion. This screen shot shows 20 degrees of flexion. The number in the bracket is the movement occurring at the pelvis (5). In this case 5 degrees of anterior tilt.

If the movement changes to extension (5 degrees in this example) the pelvic angle in brackets switches to the bottom of the screen. In this case the patient's pelvis is still in anterior tilt. However as they move more into extension the pelvis is likely to start posteriorly tilting and if this is the case the number in the brackets would be represented as a negative number.



63. Now have the patient place the RFD in the pouch provided or their pocket. ViMove will give them appropriate biofeedback alerts and reminders during the day. Be sure to remind the patient to keep the RFD on them at all times during the day.

Encourage the patient to return the device at the end of the day. This way it can be charged overnight and used on another patient first thing the following day. The patient is now free to leave the clinic.

It is always a good idea to exit ViMove once you have finished a session. To do this simply press the 'X' in the top right hand side of the screen. You will be asked to confirm you wish to exit ViMove. Press the OK button.



64. Refer to steps 70-72 (page 39) for instructions on how to offload your Biofeedback session.

Hang Gliding

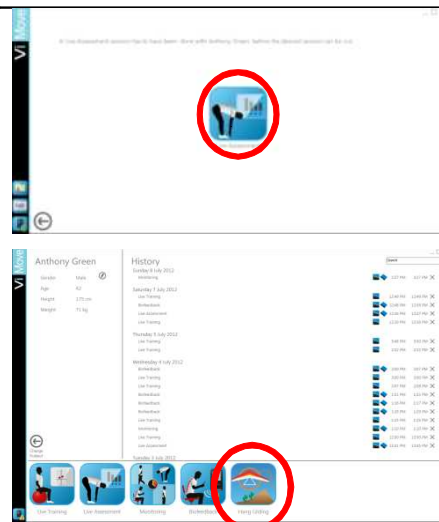
Hang Gliding is a new addition to V5 of ViMove. This application allows your patient to practice their pelvic tilting in a fun and interactive way. The patient's pelvis is the hang glider and as they anterior tilt their pelvis the hang glider tilts forwards, as they posterior tilt the hang glider tilts backwards. The aim of Hang Gliding is to fly the hang glider through the hoops.

65. You can either start a hang gliding session by choosing Hang Gliding during the set-up instructions, or at any time once a session has been set-up for that particular patient.

If starting from scratch, follow *Initial session* set-up instructions (clicking on the Hang Gliding icon during step 5) (pages 12-13) and *Sensor selection and fitment* (page 14-20).

If you have not performed a Live Assessment session for the subject you wish to perform the Hang Gliding session, this screen will appear and you will need to do a Live Assessment session before ViMove will allow you to activate a Hang Gliding session. Click on Live Assessment and follow the instructions for steps 25-38 on pages 21-25.

If you have performed other sessions 1st and then wish to do a Hang gliding session, simply click on the Hang Gliding icon whilst in the Subject Home view.



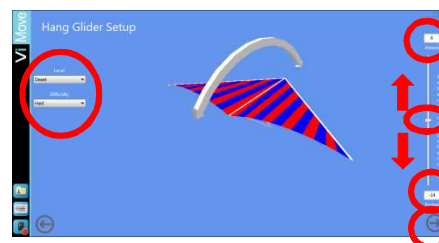
66. The Hang Gliding home screen will appear.

The Anterior and Posterior pelvic tilt angles from the most recent Live Assessment are automatically entered into the Hang Gliding application. You can change these if needed, just click on the box and type in the new angle. These numbers will dictate how far the patient has to anterior and posterior tilt their pelvis to get the hang glider to move to the maximum forward and backwards tilt.

You can bias the Hang gliding game to make the patient work harder into anterior or posterior tilt. To do this move the slider  towards either Anterior (making them work harder in this direction) or Posterior to make them work harder in this direction.

You can set:

- Level which changes the terrain you will fly through
- Difficulty: Easy, Medium, Hard or Extreme



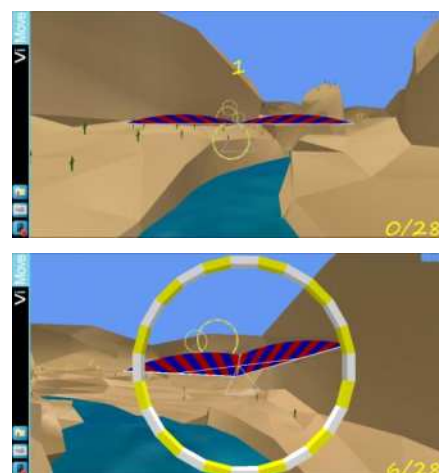
Press next  to start Hang Gliding

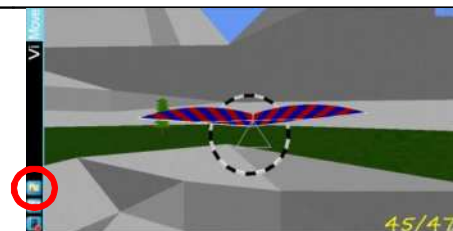
67. The patient will receive a 5 sec countdown and then the hang glider will start moving.

Anterior or Posterior tilt their pelvis to get the glider to tilt forwards or backwards so it passes through the hoop. 1 point for each successful navigation.

At the completion of the final hoop you will receive a summary of the number of hoops the patient has successfully flown through.

Click on the subject home icon  to return to the patient's home screen. The session will appear in their history.





Removing the sensors

68. Peel back a corner of the white adhesive pad from the skin. With one hand holding down the skin nearby, slowly peel off the remainder of the adhesive pad. Remove all adhesive pads. There may be some redness of the skin after removal which will generally settle with time. Skin lotion may help.



69. Unclip the sensors from the adhesive pad (from the side with 2 small clips) and get the patient to place all four sensors and the RFD in the case or bubble wrap envelope you have supplied (if you don't have one of these, please find a suitable alternative). Dispose of the adhesive pads (NOT the white sensors). Get the patient to return the device (RFD and sensors) to your clinic either at the end of the day or the following morning to allow the device to be utilised by other patients. If this is an issue organise alternative arrangements.



Offloading a session

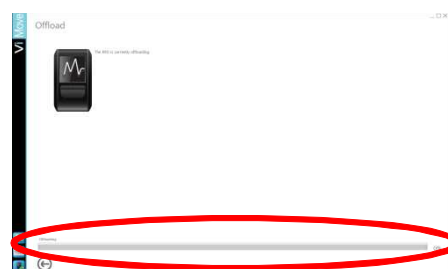
dorsaVi encourages you to offload any Monitoring or Biofeedback session as soon as the device is returned to the clinic. Depending on the length of these sessions, the offload time can be up to 5 mins. Whilst the system will automatically offload any data before a new session is started (so there is a fool-proof system to ensure data is not lost by accident), by deliberately offloading a session, ViMove is always ready to be configured for a new session.

70. To offload data, connect the RFD to the PC via the USB lead. Make sure the patient who has been having the Monitoring or Biofeedback session's home screen is selected. The offload icon will appear in place of the Monitoring and Biofeedback icons.

Click on the "offload" icon.



71. The data will now be offloaded from the RFD. The following screen will appear as the data is being offloaded. The time this takes will depend upon the length of the session. The bar at the bottom of the screen will show you the progress of the offload and % complete



72. Once the data has been offloaded you will be returned the patients home screen where the data is now available for viewing.



History

All previous sessions that have been performed for a patient will appear in the subject home screen. Here you can access the raw data from each session as well as any reports.

73. The Subject home screen lists any sessions that have been performed for that particular patient. You can go back and review these at any time in the future.

Each session is listed under the date it was performed, stating the type of session, the type of sensor set-up (lower back, lower back + EMG) with the start and end time listed as well.

Next to each session will be a graph symbol . Clicking on this will allow you to see the raw data captured for that particular session. If the session was a Live Assessment, Monitoring or Biofeedback then it will also have a report icon beside it. Clicking on this will bring up any report generated for that session.



74. Live Training:

Click on the graph symbol beside the appropriate Live Training session.

This will bring up the raw data captured during that particular Live Training session. You can select whatever data you wish to see by using the legend at the bottom of the screen. It may be overall F/E or LF; upper F/E or LF; lower F/E or LF; left, right or overall EMG.

There is a timeline just above the legend which you can use to locate the movement you would like to look at in more detail.

You can zoom in or out of the data or highlight the section of the data you wish to look at in more detail by using the right mouse (see step 46, page 29).

Once you have finished reviewing the data, click on the subject home icon and you will return back to the patient's home screen.



75. Live Assessment:

Click on the graph symbol  beside the appropriate Live Assessment session.

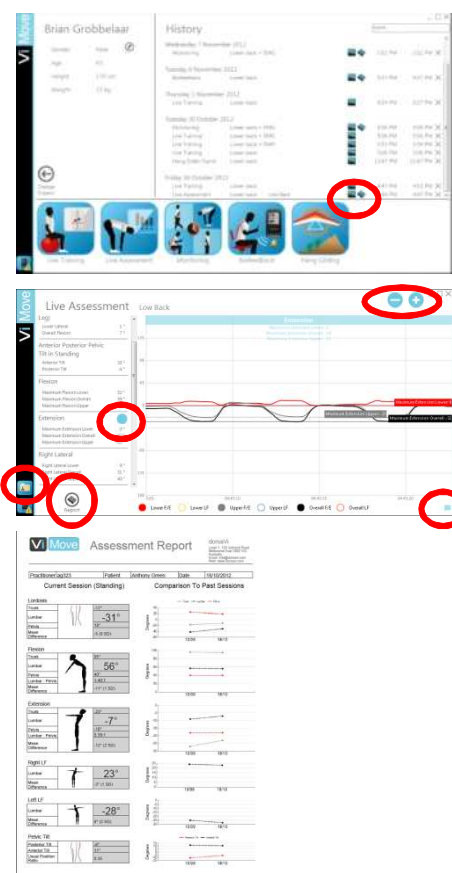
This will bring up the raw data captured during that particular Live Assessment session. Simply left mouse click on the movement or postural position you wish to look at from the list on the left hand side of the screen. A blue dot  will appear to indicate which piece of data you are viewing. If you want to remove the boxes and dotted lines from the view, click on the light blue flag .

If you wish to view any other movements or postural positions just left click on the appropriate one.

You can zoom in or out of the data   or highlight the section of the data you wish to look at in more detail by using the right mouse (see step 46, page 29).

View the report of the Live Assessment session either by clicking the report icon  from the patient's home screen, or the report icon  when viewing the raw data.

Once you have finished reviewing the data, click on the subject home icon  and you will return back to the patient's home screen.



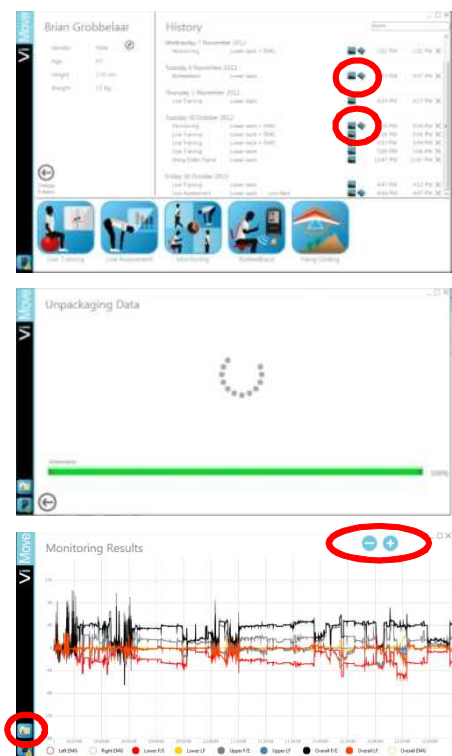
76. Monitoring and Biofeedback:

Click on the graph symbol  beside the appropriate Monitoring or Biofeedback session.

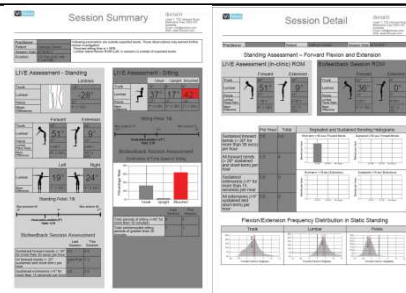
The 1st time you look at this data, ViMove will need to unpackage the data so you can view it. The time this process takes will depend on the length of the session. Once this un-packaging process is finished, the raw data will be displayed.

You can zoom in or out of the data   or highlight the section of the data you wish to look at in more detail by using the right mouse (see step 46, page 29).

View the report of the Monitoring or Biofeedback session by clicking the report icon  from the patient's home screen. If you are looking at the report before viewing the raw data, then the system will need to un-package the data 1st. Two Pdf reports will be created, a Session Summary 1 page document and a Session Detail 4 page document. See *How to Read a Report*, step 79, page 43



Once you have finished reviewing the data, click on the subject home icon  and you will return back to the patient's home screen.



77. Removing a session:

You can remove from the patient's history any sessions that you like. This may be because the data is of no value or the session was aborted part way through. It allows you to keep a clean history of sessions. By removing a session from the patient's history you do not delete the data completely from your computer. As such if you remove a session by accident, contact dorsaVi and we can help you retrieve it and place it back into the patient's history.

To remove the session, click on the 'X' which appears to the right of the session. You will be asked to confirm you wish to remove the session. Click OK  (or  to cancel removing the session).



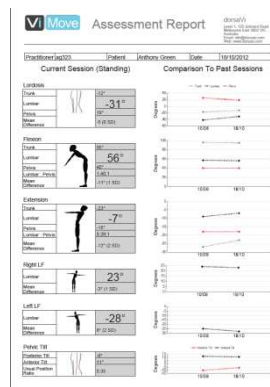
How to read a report

78. Live Assessment:

Lordosis: The angles shown here for the Trunk (upper sensor) and Pelvis (lower sensor) are the movement sensors in relation to a line of gravity. A negative number indicates the sensor is in extension (or posterior tilt) a positive number indicates flexion (or anterior tilt). Lumbar is the difference between the trunk and pelvis and gives you the patient's lordosis. In this example -31 degrees (-12 minus 19) or 31 degrees of relative extension.

After lordosis is captured the system is calibrated so that the patient's lordosis becomes 0 degrees for both the upper and lower sensor. As such all other angles are now showing the number of degrees the trunk and pelvis have moved from this zero position.

Flexion, extension, usual sitting, upright sitting and slouched sitting all show trunk, pelvis and lumbar angles with right LF and left LF only showing lumbar angle. All of these also list the mean difference.



Mean difference is the number of degrees difference between the 'average' range we have seen in our data base (non low back pain patients) and the patient's actual range. Simply add the 2 numbers together (Lumbar and Mean Difference) to get the average. You will also see how many standard deviations (SD) the patient's data is compared to the 'average'.

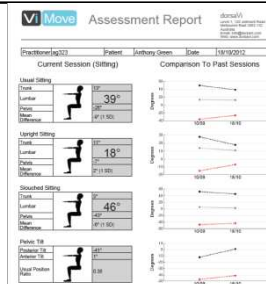
Lumbar: Pelvis ratio for flexion and extension represents how much lumbar movement has occurred in relation to the amount of pelvis movement. For extension this ratio is not as clear; however for flexion ideally this ratio should be close to 1:1.

For pelvic tilt in standing and sitting, the usual position ratio tells you where the patient's pelvis angle in normal standing or normal sitting sits in relation

to their anterior and posterior pelvic tilt range. In standing the patient's normal pelvis position is zero (as the system is calibrated to this position) and in normal sitting the pelvic angle is captured whilst the patient is in this position. Ideally this ratio should 0.5 which would mean the patient's usual pelvis position is halfway between their available range of anterior and posterior pelvic tilt. Anything between 0.33 and 0.66 is fairly normal, between 0 and 0.33 indicates the patient's pelvis is nearer to their full posterior pelvic tilt range, between 0.66 and 1 indicates they are closer to their full anterior tilt range. As with all data, this needs to be taken into consideration with the patient's history and symptoms to see if this is clinically relevant.

Single leg standing shows the pelvic lateral tilt angle. A negative angle is left lateral tilt; a positive number is right lateral tilt. Any pelvic tilt angle more than 5 degrees would be worth investigating further.

The right hand side of the report will graph up to 7 past sessions. The date of each session will be at the bottom of the graph. This way you can compare progression of the patient over time.



79. Monitoring or Biofeedback:

Session Summary:

There are up to 20 different parameters in a Monitoring or Biofeedback report that have been flagged as important. These 20 have been ranked from 1-20.

The top section of the 1 page summary report, lists up to a max of 5 parameters (2 in this example) that have fallen outside of the 'normal' data we have seen from our database of over 200 sessions. If more than 5 of these parameters are outside of the 'normal' values, only the top 5 ranked will appear.

These may or may not be clinically relevant to your patient.

The sections that relate to any parameters outside of 'expected levels' values are highlighted red to help you locate them.

Whether they are addressed by you is up to your clinical judgment.

Mean difference is the number of degrees difference between the 'average' range we have seen in our data base (non low back pain patients) and the patient's actual range. Simply add the 2 numbers together (Lumbar and Mean Difference) to get the average. You will also see who many standard deviations (SD) the patient's data is within compared to the 'average'.

Live Assessment data is data captured during the in-clinic Live Assessment. Biofeedback session Assessment is data captured during the Monitoring or Biofeedback session, that is data captured outside of the clinic.

Session Detail:

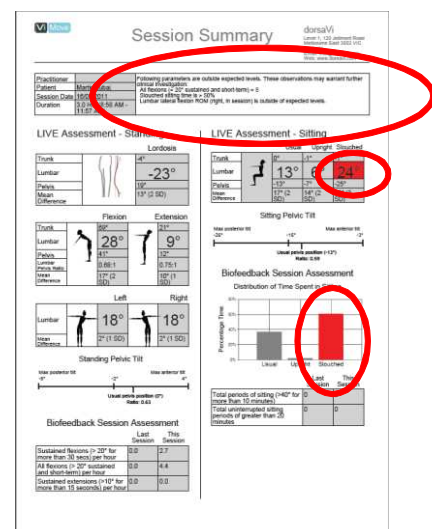
Further information is contained in the detailed report.

Body orientation summary:

Gives you the % of time the patient spent in standing, sitting, horizontal (lying down or reclined sitting) or dynamic (walking, running etc). If one of these parameters is >50% it will be highlighted red.

Biofeedback summary:

Relevant for Biofeedback sessions. This will list any alerts that have been set and how many times they were activated during the session. If the



same alert had been set the previous time the patient had worn the device during a Biofeedback session, you will be able to compare the last session to this session in terms of the number of times the alert was activated.

Standing assessment – Forward flexion and Extension:

Here you can compare the maximum flexion and extension range recorded in the Live Assessment (in-clinic) with that performed in the session. You may see that the person is actually moving further during their normal daily activities than when they are performing movements in the clinic (or vice versa). They may in fact be moving to the same overall flexion or extension range in session compared to in-clinic, however the contribution of the pelvic and trunk may be completely different i.e. they have different movement patterns depending on the environment they are in and whether they are being observed or not.

Flexion and extension histogram:

This section allows you to see the number of flexion and extension movements that have occurred during the session, how many were in certain ranges (i.e. for flexion 20-40 degrees, 40-60 degrees and > 60 degrees) and how many were sustained. All this information adds to the clinical picture and can illustrate how the patient may be aggravating their condition through their movement pattern, or potentially avoiding movements.

Flexion/Extension frequency distribution in static standing:

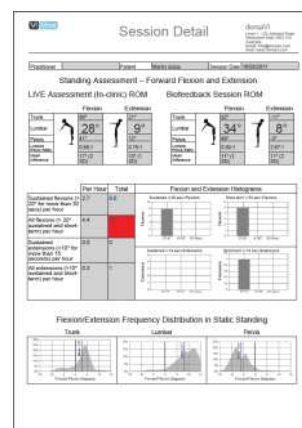
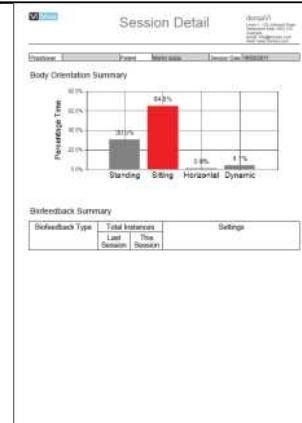
For the time the patient is between 15 degrees of flexion and -15 degrees of extension, what were their average trunk, overall lumbar and pelvis positions? Generally you would expect the patient to have their average close to zero for all of these as this would indicate their normal standing position captured in the Live Assessment was in fact the position they spent the most time in when in an upright position. However what you may see here is the patient is tending to adopt more of a flexed or extended position throughout the day. This may be driven by the position of their pelvis (the pelvis is in anterior or posterior tilt whilst the trunk stays fairly neutral) or by their trunk (the upper sensor is flexed or extended and the pelvis is in a neutral position).

Standing assessment – Left and right lateral flexion:

Similar to the standing assessment for flexion and extension, Here you can compare the maximum left and right lateral flexion recorded in the Live Assessment (in-clinic) with that performed in the session. You may see that the person is actually moving further during their normal daily activities than when they are performing movements in the clinic (or visa versa). What this section tends to highlight is more movement in session to one side compared to the other. This should not be viewed in isolation but also in conjunction with the information seen in the lateral flexion histogram.

Lateral flexion histogram:

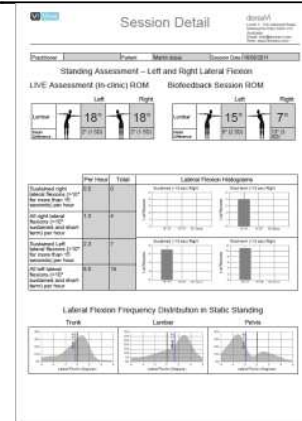
This section also allows you to see the number of left and right lateral flexion movements that have occurred during the session, how many were in certain ranges (i.e. 10-15 degrees, 15-20 degrees and > 20 degrees) and how many were sustained. What is often very obvious in this section is a bias towards movement in one direction compared to the other. In some reports we have seen 100 total right lateral flexions and only 10 lateral flexions to the left. All this information adds to the clinical picture and can



illustrate how the patient may be aggravating their condition through their movement pattern, or potentially avoiding movements.

Lateral flexion frequency distribution in static standing:

For the time the patient is between 6 degrees of right lateral flexion and -6 degrees of left lateral flexion, what were their average trunk, overall lumbar and pelvis positions? Generally you would expect the patient to have their average close to zero for all of these as this would indicate their normal standing position captured in the Live Assessment was in fact the position they spent the most time in when in an upright position. However what you may see here is the patient is tending to be orientated to one side more than another. This may be driven by the position of their pelvis (the pelvis is in left or right lateral tilt whilst the trunk stays fairly neutral) or by their trunk (the upper sensor is left or right laterally flexed and the pelvis is in a neutral position).



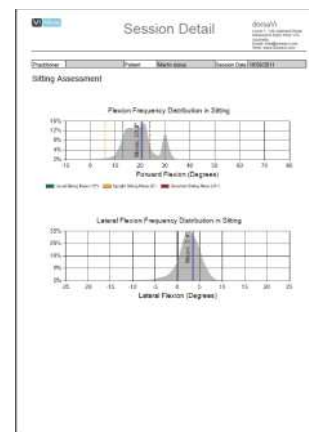
Sitting Assessment:

Flexion frequency distribution in sitting:

This graph shows the patient's usual, upright and slouched sitting positions (their overall flexion in these positions) which were captured in the Live Assessment and then shows their mean position during their time spent in sitting during the monitoring or biofeedback session. You can see if the patient is sitting close to their 'normal sitting position' (the position they think they normally sit in) or tending to be closer to their slouched or upright position. This is great data which often highlights to you and the patient how poor their sitting posture is during the day. Coupled with the amount of time the patient is spending in sitting (which you see from the body orientation summary), this is often contributing to the patient's symptoms.

Lateral flexion frequency distribution in sitting:

Finally this graph shows when the patient is sitting, whether they are sitting fairly upright or orientated to one side or the other in lateral flexion. This can often indicate issues with a patient's workstation set-up.



Interpreting LIVE data

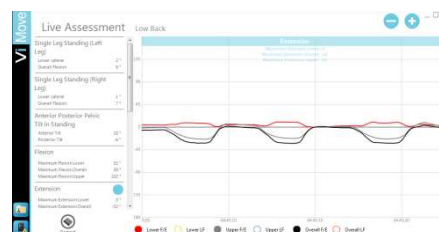
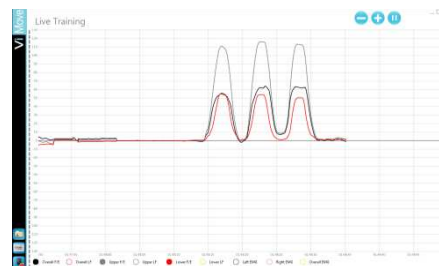
An important part of understanding the information you're seeing, is understanding what each of the lines represents.

80. The Grey line is the upper sensor showing upper lumbar flexion and extension.

The Red line is the lower sensor showing pelvic flexion and extension, of the sacrum.

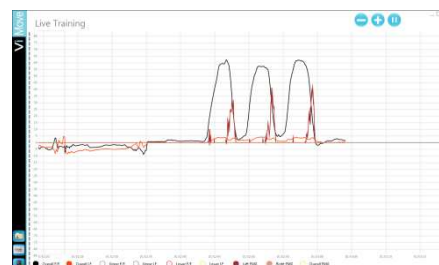
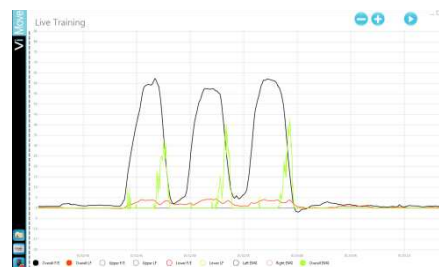
The Black line is overall lumbar spine flexion and extension. This is essentially the grey line minus the red line.

Above the x-axis is flexion, below the x-axis is extension.



81. Green is overall EMG activity.

Pink is right EMG, Magenta is left EMG

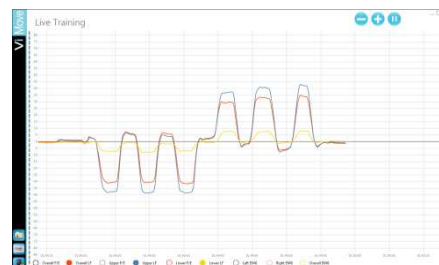


82. Light blue is upper lumbar lateral flexion

Yellow is pelvic lateral flexion

And Orange is overall lumbar spine lateral flexion. This is essentially the light blue minus the yellow line

Above the x-axis is right lateral flexion, below the x-axis is left lateral flexion.



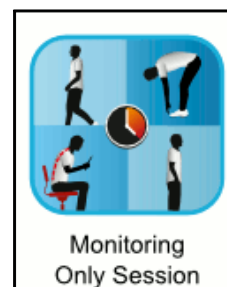
RFD screens

The following RFD screens are those you will commonly see with the ViMove system.

83. This screen indicates the level of charge of the RFD unit. For a Monitoring or Biofeedback session you should have at least one green bar showing.

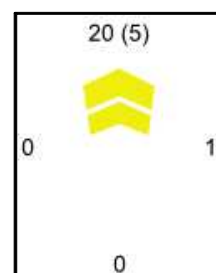


84. Screen shown when a Monitoring session is recording data.



85. This is the main screen of the RFD during a Biofeedback session.

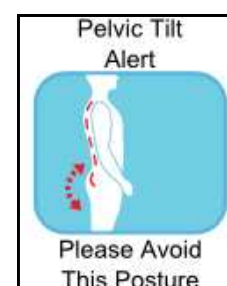
Arrows indicate the direction you are moving. The more arrows, the greater the movement. The numbers beside the arrows indicate the degrees of movement occurring in that direction. The top is flexion, bottom extension, left is left lateral flexion and right is right lateral flexion. The number in brackets is the amount of pelvic movement occurring.



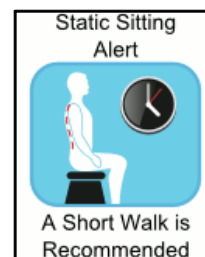
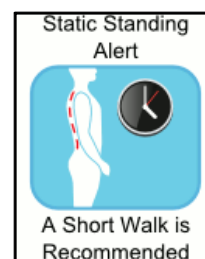
86. This symbol will be shown on the RFD when the EOR alert is activated. It does not indicate in which direction the movement has occurred. This will only be an issue if the EOR alert has been set in more than 1 direction.



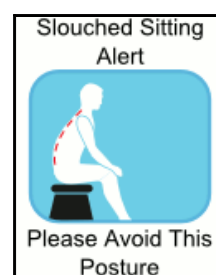
87. Pelvic standing alert symbol will appear if this alert has been set and the patient has exceeded the threshold.



88. Standing or sitting postural alert symbol appears when a period of static movement exceeds the threshold set.



89. Slouched sitting alert symbol will be shown if the patient exceeds either the pelvic or overall flexion threshold.



90. Upright sitting alert symbol will be shown if the patient exceeds both the pelvic and overall flexion threshold.



91. Reminder symbol will appear if this has been set. It does not qualify the type of reminder.



92. If the RFD has lost wireless contact with any of the 4 sensors, the following screen will appear. Generally this is only a temporary issue and sensor contact will be restored within 10 secs. Always make sure the RFD is as close to the sensors as possible and if this continues to occur try re-positioning the RFD. If this continues to happen, try step 103 (page 51) in the trouble shooting section.

This screen will also appear if the sensors are placed into the charging dock whilst a session is occurring. Placing the sensors in the dock puts them into 'bootloader' mode and cuts the wireless connection between the RFD and the sensors.



93. To change the type of feedback you are receiving (the default is auditory and vibration). Press the "MODE" button in the centre of the RFD once to show the "Alert Options" screen. Use the "Up" or "Down" buttons to adjust to the preferred setting. Press the "MODE" button twice to return to the main screen.



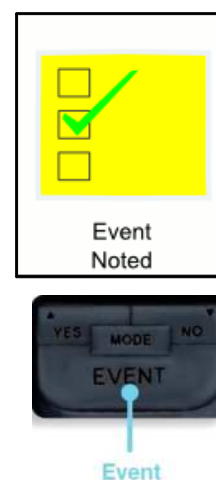
94. To change the feedback sensitivity, press the "MODE" button in the centre of the RFD twice to show the "Alert Sensitivity" screen. Use the "Up" or "Down" buttons to adjust sensitivity to a higher or lower level. Press the "MODE" button twice to return to the main screen.



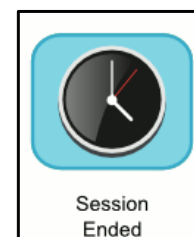
NOTE: At the moment changing feedback sensitivity is not active. It is included in the instructions in case you come across this screen.

95. To record an event (i.e. when pain has occurred during a particular activity). Press the button labelled "EVENT" on the RFD unit. Press once for low pain experienced, twice in quick succession for moderate pain or three times for intense pain.

NOTE: At the moment recording an event is not active. It is included in the instructions in case you come across this screen. It will be active in the next software release.



96. If you have set a Monitoring or Biofeedback session to end after a specified time (the default is 8 hours), the RFD will stop recording data. This screen will appear.



Closing ViMove

97. To close the ViMove ViLive software, click the 'X' on the top right of any screen whilst using ViMove. The system will ask you to confirm you wish to exit. Click OK or to cancel exiting the system.



Trouble shooting

98. Sensors not configuring

First make sure the sensors are in the dock, the dock is connected to power, the sensor serial numbers have been correctly entered into the system and the sensors are flashing in the correct sequence (solid green alternating to solid white).

If the system is still not configuring, try resetting the RFD (see step 105, page 51) and then press next again. If you are still unable to configure the device close ViMove software by pressing 'X' in the top right of the screen and setting up a session again.

99. ViMove says the patient is in session but no movement is showing on the screen (or it is showing flat lines)

If the previous time you used ViMove was for the same patient (on another day for instance), the system may say you are still 'In Session' for that person. If you have put the sensors back into the powered dock, or the sensors have run out of charge the connection will be lost between the RFD and the sensors.

If you double click on this patient you will be taken to the patient's home screen with the ability to choose any of the applications. However when trying to view data live on your PC in Live Training or Live Assessment, the data will show flat lines on the screen and will not respond to the patient's movement. If you try and set up a Monitoring or Biofeedback session you will not be able to complete the final steps as the RFD will not be communicating with the sensors.

To get the system to work properly you need to reconfigure the sensors. See instructions below.



100. How do I reset/reconfigure the sensors?

Click on the RFD symbol on the bottom left hand side of the screen. It will bring up the following image. Click on the reconfigure icon beside the large RFD symbol.

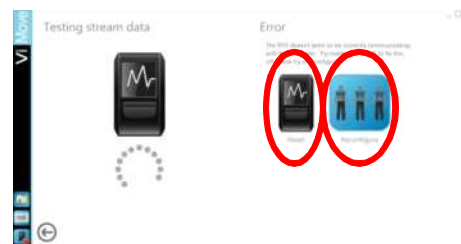
This will take you to the sensor set-up screen. Follow the appropriate instructions in steps 7-23 pages 14-20 to get the sensors showing live data again.



101. Error in streaming data

If the following screen appears, the RFD has lost contact with the sensors, or has failed to connect properly in the 1st place. Try resetting the RFD by clicking on the RFD symbol or reconfigure the sensors by clicking on the reconfigure icon.

If you are still having issues, you can try a manual reset of the RFD (step 105, page 51) or close down the software (step 97, page 50) and start again. If you are still having issues, contact dorsaVi via support@dorsavi.com



102. Why hasn't my session saved in the database?

The most likely explanation of this is the session was not successfully initiated. Contact dorsaVi via support@dorsavi.com as the data may have been saved but is not linked to the database.

103. The no biofeedback screen is constantly appearing on the RFD

Ensure the RFD has a clear 'line of sight' between itself and the sensors.

Make sure one or more of the sensors hasn't been placed back in the charging cradle by accident. Once a sensor is placed back in the cradle and the cradle is connected to power, the sensor will be placed into 'bootloader' mode and connection is lost between the RFD and sensors.

If it continues, contact dorsaVi via support@dorsavi.com to adjust the frequency setting of the RFD. There may be another electronic device in the area that is operating on the same frequency.

104. No EMG signal

Check to make sure you have ticked the box at the bottom of the LIVE Training or LIVE Assessment screen for either total EMG or left or right EMG (depending on what you want to see).

Check to see you have removed all of the plastic backing off the EMG DAP (sometimes this backing tears in half leaving a piece still attached).

Remove the EMG sensor from the DAP-E (DON'T pull the DAP off the patient, leave it attached) and run your finger over the 3 metal prongs on the sensor. When you do this you should see activity from that sensor appearing on the screen. If you don't there is something wrong with the sensor and you should contact dorsaVi.

Try a new DAP-E as it may be faulty. If you discover a faulty DAP-E please keep it and return it to dorsaVi for a refund.

105. Resetting the RFD

Simultaneously press the 'yes' and 'no' buttons of the RFD and hold for 6 secs.

Wait for the RFD screen to return to the view you had prior to resetting. This generally takes about 10 secs.

