



## **Work Related Musculo-Skeletal Disorders (Sonographers)**

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### **Summary**

The Society and College of Radiographers receives many enquiries from sonographers about work related musculo-skeletal disorders (WRMSD). The following is a compilation of some of the answers that Nigel Thomson (Professional Officer for Ultrasound) and Lyn West-Wigley (Policy Officer: Health and Safety) have given. It provides a broad overview of the subject and gives links to more definitive documentation and advice. A new section on scanning the high BMI patient has been included in this second edition following several enquiries.

### **Introduction**

The Society and College of Radiographers (SCoR) receives many enquiries from sonographers about work-related musculo-skeletal disorders (WRMSD). The following is a compilation of some of the answers that Nigel Thomson (Professional Officer for Ultrasound) and Lyn West-Wigley (Policy Officer: Health and Safety) have given. This document is designed to be read as an overview of the topic with links to documents where in-depth information can be found.

For information, an employer has a legal responsibility under the Health and Safety at Work Act (1974) and Management of Health and Safety at Work Regulations (1999) to ensure the health, safety and welfare at work of their employees.

### **1) What information and general advice is available on WRMSD?**

A sonographer should aim for what might be called 'sensible scanning' practices. If a sonographer feels that conditions are likely to induce or exacerbate WRMSD, whether it be due to the workload, inadequate equipment, reporting facilities, high patient BMI, or other reasons then it is their professional duty to inform their manager, preferably in writing, at an early stage.

The SCoR has published several documents that give advice on work related musculo-skeletal disorders and how their incidence can be reduced. These can all be accessed via:

<https://www.sor.org/practice/ultrasound/health-safety-sonographers>

In 2012 the Health and Safety Executive published a report on WRMSD problems in ultrasound which is advised reading:

## Work Related Musculo-Skeletal Disorders (Sonographers)

Published on Society of Radiographers (<https://www.sor.org>)

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<http://www.hse.gov.uk/healthservices/management-of-musculoskeletal-disor...>

As far as a strictly legal requirement to work-breaks under the Working Time Regulations are concerned, the following website gives information:

<http://www.hse.gov.uk/contact/faqs/workingtime.htm>

Mini and micro-breaks are important with regards to good scanning practice and are also discussed in the above SCoR documents. These can be as simple as taking the transducer off the patient and resting the arm while taking measurements.

Breaks in scanning can be for a variety of work-related reasons as well as scheduled rest breaks such as for lunch. Time should be allowed for Continuing Professional Development (CPD) activities although allowing time for CPD is unfortunately not mandatory for most sonographers.

Trusts and Health Boards do have mandatory requirements for training, some of which are on-line and can be completed over several days e.g. infection control, risk management, health and safety, basic life support. These will all need time to complete and may help break up what, in some departments, can be an extended day. There is also audit, multi-disciplinary team meetings, reporting discrepancy meetings, Fetal Anomaly Screening Programme (FASP) quality procedures including the Down's Syndrome Screening Quality Assurance Support Service (DQASS), student mentoring and protocol updating to attend to that can all form part of a working day and can be considered as breaks from physical scanning.

If at all possible, scanning lists should have a variety of case types rather than a long sequence of the same types of examination to vary muscle movements.

Two documents relating to ultrasound service delivery are of relevance:

RCR/SCoR (2014) 'Standards for the Provision of an Ultrasound Service'

[http://www.sor.org/sites/default/files/document-versions/bfcr1417\\_standards...](http://www.sor.org/sites/default/files/document-versions/bfcr1417_standards...)

SCoR/BMUS (2015) 'Guidelines for Professional Ultrasound Practice'

[https://www.sor.org/sites/default/files/document-versions/ultrasound\\_gui...](https://www.sor.org/sites/default/files/document-versions/ultrasound_gui...)

Section 1.9. Note: SCoR or BMUS log-in required.

The Visual Display Unit (VDU) regulations apply and sonographers and managers should be aware of these. Employers should provide free eyesight tests or allow re-imburement of the cost of the test. <https://www.sor.org/learning/document-library/vdu-regulations-hs-display...>

(Please see also section 4 below)

There are 'body mapping' tools available from the SCoR website. These can help with recording where individual sonographers experience pain or discomfort.

[https://www.sor.org/learning/document-library?sort\\_by=field\\_date\\_publish...](https://www.sor.org/learning/document-library?sort_by=field_date_publish...)

Exercises for sonographers can be found in the 2007 SCoR document 'Prevention of Work Related Musculoskeletal Disorders in Sonography' via

<https://www.sor.org/practice/ultrasound/health-safety-sonographers> and also via on-line searches.

Stretching and warm-up exercises prior to a scanning session have been found to be effective by many sonographers.

Courses on the use of the Alexander Technique for sonographers have proved popular to improve awareness of posture and movement.

Try scanning in different positions (e.g. standing or sitting) and find what is most comfortable for you. Be 'body aware'.

From a prevention of WRMSD perspective ultrasound examinations on wards should be limited to those cases where the examination is clinically important and the patient cannot be brought safely to the department. This guidance can be relaxed if there are proper facilities for scanning on wards, the equipment is suitable and the proposed scanning activity has been risk-assessed.

Trusts and Health Boards should have back care and ergonomics advisors available who are able to give advice and undertake risk assessments. SCoR Health and Safety Representatives can also undertake risk assessments.

Independent providers and those working in the community should ensure that the published good practice principles associated with room layout and design, environment, sonographer chairs and examination couches are also applied. Equipment selected should be suitable for the task required.

The temperature of the ultrasound room should be able to be set as required by the sonographer for a more comfortable working environment. Ultrasound rooms tend to be overheated and air conditioning can be very welcome although a room that is too cold can also exacerbate muscular injury and can, in addition, be a problem from the point of view of patient care. Having effective control of room temperature will, in turn, lead to a more productive and less stressful working environment. Equipment must be stored and used following the manufacturer's published advice with respect to room temperature.

Room lighting should be subdued but not to the point that movement becomes hazardous.

Slave monitors are recommended by FASP for the two obstetric screening scans under their remit.

Ensure that the patient is as close as possible to the edge of the couch thereby minimising the load on the scanning arm through unnecessary leaning and arm abduction. Note that the arm operating the machine controls should also not be extended for long periods as this can exacerbate problems.

When using a computer for reporting during a scan, try to avoid holding the probe on the patient while entering data with the other hand.

The use of the couch Trendelenburg (head down) function if available can help improve visualisation of the fetus when it is positioned low in the maternal pelvis.

A relaxed abdomen is easier to scan than a tense one. Careful explanation and the use of patient relaxation techniques can help to reduce the overall time of the examination.

## 2) Is there any published advice on examination times?

The SCoR has published (2015) an advice document on ultrasound examination times available from <https://www.sor.org/learning/document-library/ultrasound-examination-tim...>

Times for the two obstetric ultrasound screening scans are now within NHS England Service Specifications Nos. 16 and 17

<https://www.england.nhs.uk/commissioning/wp-content/uploads/sites/12/201...> Page 12 (11w2d to 14w 1d scan).

<https://www.england.nhs.uk/commissioning/wp-content/uploads/sites/12/201...> Page 13 (Anomaly scan at 18w to 20w 6d)

NICE Guidelines on Multiple Pregnancy (CG 129) published in September 2011 state that 30 mins should be allowed for growth scans on twins and triplets. (Section 1.3.3.4, Page 18)

The Abdominal Aneurysm Screening Programme has guidance on clinic booking times and overall session numbers in their Standard Operating Procedures.

<https://www.gov.uk/government/publications/aaa-screening-standard-operat...>

Sonographers have a professional responsibility to ensure that the time allocated for an examination is sufficient for it to be carried out and reported safely and competently.

### 3) Does the SCoR have any advice with respect to learning how to scan with the non-dominant hand?

We do not have any specific advice at present. The advantage is that the dominant hand and arm can be rested but there is then the risk of problems arising also on the non-dominant side. Time will also be needed to adapt to scanning with the non-dominant hand which will inevitably initially increase examination times. It is also not easy to change the physical layout of many ultrasound rooms and time must be allowed for this in examination schedules.

**Before** any changes are made, the employer has a legal duty to conduct a risk assessment and a full review of the practicalities should be undertaken. Engaging members in this risk assessment is good practice as employers are then fully aware of what actually happens within the department and not just what is thought to happen.

It is also worth noting that sonographers use both hands as a matter of routine, the non-scanning hand is continually manipulating the equipment settings which can also put strain on muscles and tendons if posture is poor.

### 4) What do the regulations say about eye tests?

Although not a legal requirement, sonographers have a clear professional duty to ensure that their eyesight is regularly tested and that glasses/contact lenses are worn if required. Eyesight may deteriorate subtly over a period of time hence the importance of regular testing. Sonographers are classed as VDU users owing to the considerable time they spend looking at screens while scanning and inputting information onto screens and employers should provide free eyesight tests or allow for re-imbusement of the cost of the test. The employer does not have a legal obligation to permit 'paid' time off to attend an eye test.

### 5) What should I do if there are problems?

The employer has a legal duty to conduct a risk assessment **before** any changes in work practice are made. This can include changing scanning times, changes in equipment, changes in rota systems or out-of-hours cover, and extending the working day. When there has been any accident or injury, the risk assessment needs to be **reviewed**, and risks acted upon. All ultrasound rooms and procedures should be subject to a regular and on-going risk assessment process.

If sonographers are suffering from WRMSD they should ask their local Health and Safety Representative or Industrial Relations representative to look at the risk assessment in place, and check whether any risks were noted on a previous assessment, and what preventative measures were taken.

It is important that concerns about WRMSD are put in writing to management.

If an injury has been sustained during the course of employment, the sonographer should report this to their manager, complete an incident report and seek advice from occupational health.

Many departments have open access to physiotherapy for sonographers.

### **6) I scan for more than one employer, how does this affect me as far as WRMSDs are concerned?**

Many sonographers also undertake work on a private basis or for an additional employer to their main NHS employer (eg for a General Practitioner). The above considerations also apply and if the sonographer is already suffering from WRMSD these may be exacerbated, particularly if the scanning environment is poor. This may be a consideration if a claim were to be brought against a sonographer's main employer who may have made every effort to reduce the risk of WRMSD. Every case is, however, reviewed on its individual circumstances. The extension of working hours either for their main employer or as described above may also affect a sonographer's risk of developing or exacerbating a WRMSD.

### **7) What other information is available?**

There is much information available on the internet by using search words such as 'ultrasound', 'exercises' and 'ergonomics'. The SCoR does not endorse any particular site or company but a search may be of value to individual sonographers. The usual cautions about the accuracy and content of some web-based material apply.

### **8) Do you have any specific information on scanning a patient with a high BMI?**

The following points are all particularly relevant when scanning high BMI/bariatric patients and are in addition to general good practise methods of reducing the incidence of WRMSDs.

All Trusts and Health Boards should have policies relating to care and manual handling associated with high BMI/bariatric patients which should also be available and consulted.

- Use 'high BMI' presets on the machine as a starting point to manipulating the image. Manufacturers can set these up to your requirements at the time of installation and will optimise features such as transducer frequency and harmonics.
- Wherever possible the sonographer workforce should be rotated to ensure that it is not the same sonographer group exposed to risk. This is of course will depend on the skill mix of the local sonographer workforce.
- Do not extend the examination time beyond what is normally allowed if there is unlikely to be any gain. It may be that a second appointment is necessary in some cases. FASP provide guidance with respect to repeat examinations on those women attending for the 18 - 20+6 fetal anomaly scan and where the image quality is compromised by such as by an increased BMI. There is also 'twice on the couch only' advice for the 11w 2d to 14w 1d scan which forms part of the combined test. The June 2015 FASP Programme Handbook is at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/fil...](https://www.gov.uk/government/uploads/system/uploads/attachment_data/fil...)
- Avoid pressing unnecessarily hard and for too long. This may increase the risk of WRMSD and it can be uncomfortable for the patient. Firm pressure may be contra-indicated for some types of pathology or clinical situations.
- Use a helper to support tissue/fatty aprons and generally assist with the examination.
- Consider the patient's feelings.
- Use good quality equipment with good harmonics.
- Do not exceed the couch weight limit which should be clearly posted.

## Work Related Musculo-Skeletal Disorders (Sonographers)

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- Use available manual handling aids when necessary; scan in-patients in their beds rather than transferring to an examination couch.
- Report pain/injury to occupational health/line manager as a record and so that current practise can be reviewed.
- BMI should be recorded on request forms if above 30.
- If image quality is compromised, state how the examination has been affected in the report.
- Record BMI on report.
- Keep current practice for high BMI patients under review.
- Consider wording of information leaflets about limitations of scanning at time of booking.

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### Source URL:

<https://www.sor.org/learning/document-library/work-related-musculo-skeletal-disorders-sonographers>