Ultrasound Equipment Management and Training PHC Remote Guideline

Purpose

To provide Primary Health Care remote staff with guidelines on the management of Ultrasound equipment including training requirements, in remote health centres.

Guideline

1. General Information

Ultrasound equipment is not standard in all remote health centres. While local ultrasound equipment can reduce the need for patient travel and contribute to improving client care and clinical outcomes, there is significant cost involved in establishing and maintaining this equipment and trained health practitioners able to provide this service. While larger health centres may meet the criteria to justify possession of ultrasound equipment, in general, ultrasound equipment will be located in regional centres utilised by health practitioners in remote health locations across the Northern Territory (NT).

In remote health centres Medical Practitioners, Midwives or Aboriginal and Torres Strait Islander Health Practitioners (ATSIHPs) who have received appropriate training, use ultrasound as a diagnostic tool at the point of care. Staff are not permitted to perform ultrasounds unless they have undertaken relevant training. Clients requiring complex or extensive ultrasounds should be referred to a hospital or directly to a Sonographer.

Sonography is not regulated in the NT or in most other Australian jurisdictions. For further information refer to the Australian Sonographers Association and to the Australasian Society of Ultrasound in Medicine (ASUM).

Information in this document includes:
- Pregnancy Dating Ultrasound
- Other Antenatal and General Ultrasounds
- Performing an Ultrasound
- Procurement of Ultrasound Equipment
- Mobile Units - Ultrasound Equipment Log Book
- Documentation
2. Definitions

**Accredited Medical Sonographer:** a health professional who has undertaken post graduate studies in ultrasound at an accredited institution, or who has been assessed as competent by the Australasian Sonographer Accreditation Registry (ASAR).

**Antenatal Care:** care provided to improve the health of the pregnant woman and her baby by monitoring the progress of the pregnancy, detecting and managing any problems.

**ASUM:** the Australasian Society for Ultrasound in Medicine is the peak body for advancing medical ultrasound in Australia and New Zealand.

**Health Profession Manager:** for the purpose of this document refers to the Director of ATSIHPs, Director of Nursing and Midwifery and Director of Medical Services (DMS).

**LSPN:** the Location Specific Practice Number issued by the Department of Health and Ageing in order to claim Medicare benefits for diagnostic imaging services. See **Section 4.9.1**.

**PACS:** Picture Archiving and Communication System. See **Section 4.10** for details.

3. Responsibilities

3.1 **Ultrasound Operators**

- Ensure relevant training and upskilling is undertaken as required
- Maintain competency in utilising the ultrasound equipment
- Ensure the ultrasound equipment is available by booking the ultrasound equipment in advance with the Director of Medical Services (DMS) Logistic Coordinator / other relevant administration staff
- Ensure the procedure is explained to the client and consent obtained
- Ensure privacy for the client is maintained
- Provide pregnancy dating ultrasounds for women residing in remote locations
- Provide management, review and referral as required, for clients
- Ensure ultrasound equipment is handled carefully, not exposed to extreme heat for long periods of time, and maintained per manufacturers instruction
- Ensure mobile ultrasound equipment is transported safely (carry on their person or utilise a solid case if equipment is required to travel in a cargo hold or vehicle)
- Ensure an adequate supply of consumables is available for use during the planned ultrasound session, and ready for the next user
- For ultrasound machines with PACS capability and if the images require a report:
  - complete a Radiology Request Form (PCIS / EACS) with all available information and submit to the Regional Hospital Medical Imaging Department
  - complete a sonographers worksheet
  - transmit ultrasounds via PACS. See **Section 4.10** for details.

3.2 **Director of Medical Services Logistics Officer / Relevant Administration Staff**

- Maintain a record in the Ultrasound Equipment Logbook regarding the booking and location of ultrasound equipment, ie schedule of use
- Ensure ultrasound equipment is maintained per manufacturers instructions
- Maintain all documentation related to the ultrasound equipment, including:
  - Location Specific Practice Number (LSPN)
  - Diagnostic Imaging Accreditation

3.3 Primary Health Care Manager (PHCM) / Delegated Officer for Mobile Units
- Ensure ultrasound equipment is stored in a secure room, inaccessible to the general public
- Ensure ultrasound equipment is maintained per manufacturers instruction
- Ensure the log book is maintained for mobile ultrasound equipment

3.4 Health Profession Manager
- Facilitate training for clinical staff selected to undertake ultrasounds in consultation with the District Manager and Principal Midwifery Advisor

3.5 Principal Midwifery Advisor
- Identify and promote relevant ultrasound training opportunities as appropriate
- Monitor and evaluate the use of ultrasonography for pregnancy dating

3.6 Regional Hospital Medical Imaging Department
- Provide support and advice for trained Ultrasound Operators for remote locations
- Support ultrasound training / hands on use of ultrasound equipment
- For ultrasound equipment with PACS capability:
  - provide a formal Sonographer report on ultrasounds received via PACS
  - provide constructive feedback on Pregnancy Dating Ultrasounds to the scanning health practitioner

3.7 Management
- Adhere to capital equipment purchasing arrangements and government procurement guidelines where new equipment is considered

4. Procedure

4.1 Pregnancy Dating Ultrasound
Early pregnancy dating ultrasounds should be offered to women in the remote setting especially women who are unsure of their conception date. This assists with planning maternity care and enhances continuity of care. See Information Sheet – Pregnancy Dating Ultrasound for details.

4.2 Other Antenatal and General Ultrasounds
This section will be completed subject to procedures being developed.

Clients requiring more complex or extensive ultrasounds, should be referred to either the visiting Accredited Medical Sonographer or regional centre for Sonography. See the relevant Electronic Health Record (EHR) User Reference Guide (PCIS / EACS) for instruction on referring clients for diagnostic imaging.

4.3 Performing an Ultrasound
It is important to clearly explain the procedure to the client to ensure they fully understand the reason for the ultrasound and how this will be performed. This may also alleviate any fears the client may have regarding the procedure and use of this equipment.
Clear explanations will also enable informed consent to be obtained from the client for the procedure to be undertaken.

When performing the ultrasound, a comfortable and private environment should be provided for the client with sufficient room for the ultrasound operator and equipment to be positioned, and support person, should the client request this.

4.4 Procurement of Ultrasound Equipment

The basic equipment requirements are:

<table>
<thead>
<tr>
<th>Equipment Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ultrasound machine, appropriate transducers</td>
<td>trolley for ultrasound machine, consumables and instruction manual</td>
</tr>
<tr>
<td>Ultrasound Machine Instruction Manual</td>
<td></td>
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<tr>
<td>printer and printer paper</td>
<td>extension cord if required</td>
</tr>
<tr>
<td>ultrasound gel</td>
<td>carry case for mobile units and storage</td>
</tr>
<tr>
<td>examination couch</td>
<td>cleaning solution for transducer per manufactures instruction</td>
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</tbody>
</table>

When ultrasound equipment is updated or different models are purchased, delivery and applicable NT based training for users should be included in the contract. Standardisation of ultrasound equipment is recommended to facilitate ease of operator usability and interchange of transducers between equipment. Future purchases of ultrasound equipment should also consider the Information Technology (IT) capability of the ultrasound machine to utilise PACS for transmission, storage, printing and retrieval of ultrasound images. See Section 4.10 for details.

Ultrasound equipment is invariably deemed capital equipment, and therefore proposals for purchase must be channelled via the Primary Health Care (PHC) management.

Once approved and purchased, a New Asset Advice Form needs to be completed and returned to the Department of Corporate Information Services (DCIS) – Asset Accounting. DCIS will then register the equipment as a Capital Equipment Item and forward the asset labels to be applied to the ultrasound equipment.

4.5 Mobile Units - Ultrasound Equipment Log Book

Ultrasound equipment which is situated in regional bases should have a log book which records the bookings and use of the ultrasound equipment and is able to track the location of the equipment. The DMS Logistic Coordinator / other relevant administration staff for the mobile ultrasound unit should maintain this, and staff utilising the ultrasound equipment must record details in the log book.

4.6 Documentation

To ensure adequate clinical handover between health practitioners the ultrasound operator must document all ultrasound procedures and findings. This should be documented in the client’s EHR / relevant report template. When a report template is used, this is to be scanned into the EHR. For scanning procedures see Electronic Health Records – Overview.

4.6.1 Pregnancy Dating Ultrasounds

Documentation for a Pregnancy Dating Ultrasound includes:

- completing the Pregnancy Dating Ultrasound Report Form and attaching the ultrasound scan. This should be forwarded to the relevant Regional Hospital Antenatal Unit for inclusion in the client health record.
- documenting the ultrasound in the client’s EHR and scanning a copy of the informal report into the EHR
- entering the ultrasound onto the hard copy Antenatal Summary with a hard copy of the informal report attached
Health practitioners conducting Pregnancy Dating Ultrasounds utilising an ultrasound machine with PACS capability, may also complete a Radiology Request Form (PCIS / EACS) to request a formal report from a Sonographer at the Regional Hospital Medical Imaging Department. See Section 4.10 for details.

4.6.2 Other Antenatal and General Ultrasounds

This section will be completed subject to procedures being developed.

4.7 Training Requirements

Performance and use of ultrasound by Medical Practitioners, Midwives and ATSIHPs at point of care is now accepted practice.

Medical Practitioners, Midwives and ATSIHPs must undertake an approved course of training in performing ultrasound procedures in order to provide this point of care service. Ideally, training should be undertaken utilising the ultrasound equipment that the practitioner will then be using in practice setting. Education and training for PACS will also be incorporated into the ultrasound training course provided for the NT.

4.7.1 Medical Practitioner

Medical Practitioners with appropriate training may utilise ultrasound equipment to provide point of care ultrasonography. This training contributes to ongoing Continuing Professional Development (CPD) required for registration with the Medical Board of Australia.

ASUM recommends that eligible practitioners undertake the Certificate in Clinician Performed Ultrasound (CCPU) for point of care limited ultrasound examination. Details are available on the ASUM website.

4.7.2 Midwives / Aboriginal and Torres Strait Islander Health Practitioners

Midwives and ATSIHPs with appropriate training may use ultrasound equipment to provide pregnancy dating ultrasounds. Advice regarding available courses can be sought from the relevant Health Profession Manager or from the Principal Midwifery Advisor. This training contributes to ongoing Continuing Professional Development (CPD) required for registration with the Nursing and Midwifery Board of Australia.

4.7.3 Ongoing Competency Requirements

Ongoing professional development opportunities and supervision should be provided to ensure currency of practice and competencies.

Ultrasound operators need to ensure they are competent and up to date with the equipment and procedure. In the event different ultrasound equipment is purchased ultrasound operators will need to ensure they receive instruction on the use of the new equipment.

Radiography Departments in NT Regional Hospitals (RDH, GDH, KDH and ASH) are able to provide support to health practitioners who have received ultrasound training. This may include:

- an annual quality assurance review by reviewing ultrasound images provided on a disk by the health practitioner
- hands on support to use ultrasound equipment within in Medical Imaging Departments within NT Regional Hospitals or in remote settings, as negotiated with a Sonographer
- on completion of a training course in performing ultrasonography provide follow-up / review of ultrasound images by an experienced Sonographer
- PACS will promote quality control for ultrasounds. For details see Section 4.10.
4.8 Cleaning, Repairs and Maintenance

Little maintenance other than regular cleaning is required of this equipment.

The ultrasound transducer requires cleaning with a solution as recommended by the manufacturer. Transducers must be cleaned after every use. A cloth lightly dampened in a mild soap or compatible cleaning solution may be used for this purpose. See the specific ultrasound equipment user manual for detailed information and recommended cleaning and/or disinfection solutions.

Transducers are sensitive and easily damaged. Extreme care must be taken to avoid dropping or bumping this very expensive equipment.

For routine maintenance, quality checks and repairs, refer to the individual ultrasound equipment operating manuals for specific instructions.

4.9 Medicare Benefit Claiming Requirements

4.9.1 Medicare Registration & Location Specific Practice Number

Health centres where diagnostic imaging procedures are performed, or bases from which mobile diagnostic imaging is used (e.g., the Medical Practitioner home bases), must obtain a Location Specific Practice Number (LSPN) by registering with Medicare (Diagnostic Imaging Register) if the services are to be claimable. When an LSPN is obtained, this number is utilised for all diagnostic imaging services provided at that site.

For details see Diagnostic Imaging Accreditation Scheme. LSPN registration forms are available on line. LSPN information can also be found in the Location Specific Practice Numbers (LSPNS) fact sheet.

The PHC - Remote Medicare Team will assist by ensuring that the LSPN is quoted on all relevant Medicare Assignment of Benefit Forms. See Medicare Cheat Sheet - Ultrasounds for procedures that may be claimed.

Note: A Medicare Benefit may be claimed only when a Medical Practitioner performs the ultrasound.

4.9.2 Diagnostic Imaging Accreditation

To remain eligible for Medicare Benefit Claiming all ultrasound equipment (either located in a health centre or mobile units) providing diagnostic imaging services must gain accreditation against the Diagnostic Imaging Accreditation Scheme Practice Accreditation Standards. For details see Diagnostic Imaging Accreditation Scheme and the website of the Australian Government Department of Health approved accreditor, Quality in Practice (QIP).

4.9.3 Medicare Benefit Claiming

A Medicare benefit claim may be submitted for an ultrasound performed by a Medical Practitioner. See Medicare Cheat Sheet - Ultrasounds for items that may be claimed. The Medicare bulk billing incentive item 64991 can be used in conjunction with Diagnostic Imaging Items of the MBS (Category 5).

4.10 Picture Archiving and Communication System (PACS)

PACS has capability to receive and store PHC Remote ultrasound images from ultrasound machines with PACS capability. The PACS system allows transmission, storage, printing and retrieval of ultrasound images. It is suggested that only if a report is required should the health practitioner go through the process of putting the images on to PACS.

The MAIN aim of the process is to put all 1st Trimester scans onto PACS, so they can be reported and a properly documented result can be made available in the EHR - Clinical Work Station (CWS)\(^1\), and so allow the report to be sent to the client’s Electronic Health Record (EHR). To ensure that this occurs,

\(^1\) Clinical Work Station (CWS): an NT Regional Hospital electronic record system for clients pathology results, imaging reports, theatre procedures, discharge summaries and specialists letters
when the client examination commences, all client details (name, Date of Birth, HRN) must be placed in the correct fields. Other information such as Last Menstrual Period (LMP) if known and the scanning person’s name should also be entered. At the completion of the study, the ultrasound report is automatically completed by the ultrasound machine and must be photographed (this is the report with all the measurements ie Crown Rump length (CRL), Bi Parietal Diameter (BPD) etc.

Once the ultrasound examination is completed:
- ensure the ultrasound machine is connected to a NTG network port
- go to review and select the client by highlighting the correct client (make sure that the name box is ticked)
- select ‘Archive’ at the bottom of the page. This should send the images to PACS.

If this cannot be done, then upon returning to Darwin / Alice Springs, take the ultrasound machine to the Medical Imaging Department for images to be loaded to PACS.

Staff must also fax a Radiology Request Form (PCIS / EACS) to the relevant Hospital Medical Imaging Department, providing correct client data and clinical information and noting ‘Sonographer report only – see PACS’ on the request form. A formal report can only be completed when:
- the Health Practitioner Sonographer completes the 1st Trimester report, including the name of the health practitioner and contact details on the report
- provides a Radiology Request Form (PCIS / EACS) with correct client data and clinical information. This information will be scanned into PACS for the patient’s examination. Staff must note ‘Sonographer report only – see PACS’ on the request form.

It is anticipated that the person doing the ultrasound report will be able to provide constructive feedback to the scanning health practitioner.

When a hard copy of an ultrasound report is received by the health centre, this should be scanned into the client’s EHR and filed in the appropriate documents folder. For information regarding scanning procedures see Electronic Health Records – Overview.

### 4.11 Universal Serial Bus (USB)

Use of USB devices pose a risk of introducing viruses into any ICT systems and this may include ultrasound equipment that possesses a USB port. Computer viruses on the Medical Imaging equipment have the potential to cause major service issues in Medical Imaging.

To minimise risk of any infection, no USB is allowed to be placed directly into any Medical Imaging device located in the NT, without expressed approval of the NT Manager, Medical Imaging.

### Document Quality Assurance

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<td>Review</td>
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<td>Atlas Development Officer, Primary Health Care CAHS</td>
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### Key Associated Documents

#### Forms
- Pregnancy Dating Ultrasound Report Form
- Radiology Request Form, available via the EHR system
- Diagnostic Imaging Request Form, available via the EHR system
- Location Specific Practice Number (LSPN) Registration Forms
- New Asset Advice Form - Department of Business and Employment

#### Key Legislation, By-Laws, Standards, Delegations, Aligned & Supporting Documents
- Electronic Health Records – Overview
- Medicare Benefit Claiming
- Purchase Requests
- Urgent Minor Repairs
- Medicare Cheat Sheet - Ultrasounds
- Information Sheet – Pregnancy Dating Ultrasound
- PCIS Website
  - Pathology and Radiology Requests
- EACS Website
- Australian Sonographers Association
- Australasian Society for Ultrasound in Medicine
  - Policy & Standards: Statements Relating to Ultrasound Safety
- Australian Government Department of Health website
  - National Antenatal Care Guidelines provides access to 'Clinical Practice Guidelines: Antenatal Care – Module 1'
  - Diagnostic Imaging - Quality Practice Program
  - Diagnostic Imaging Accreditation Scheme
  - Diagnostic Imaging under Medicare
  - Location Specific Practice Numbers (LSPNS) fact sheet
- Medicare Australia website
  - Item Number 64991
- Quality in Practice
- Australian Health Practitioner Regulation Agency website
  - Medical Board of Australia
  - Nursing and Midwifery Board of Australia
  - Aboriginal and Torres Strait Islander Health Practice Board of Australia
- Patient Assistance Travel Scheme website

#### References
As above

### Evidence Table

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<tr>
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<th>Method</th>
<th>Evidence level (I-V)</th>
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