ASBP
The Australasian Society of Breast Physicians

Standards for Training and Competence of Breast Physicians

Curriculum of The Australasian Society of Breast Physicians (ASBP)
2024

Foreword

We are pleased to present the 2024 revision of the ASBP curriculum, which has been updated to reflect changes to the ASBP assessment process.

Version 1	2007	Dr Catherine Galbraith
Version 2	2012	Fellows of the ASBP associated with the Sydney Breast Clinic, the Wesley Breast Clinic, BreastScreen New South Wales, BreastScreen Queensland and the Westmead Breast Cancer Institute
Revised	2015	ASBP Board
Revised	2019	ASBP Board
Version 3	2024	Education Committee of the ASBP

Acknowledgements

We acknowledge Dr Catherine Galbraith (ASBP President 2004–2006) as the major driving force in the preparation of the first edition of the ASBP Standards of Training and Competency of Breast Physicians. That document was expanded in 2012 and revised in 2015 and 2019.

This 2024 update was undertaken by the Education Committee of the ASBP. It revises the assessment process and has been largely informed by the *UK Credential in Breast Disease Management* (www.rcr.ac.uk). We acknowledge that document as a significant source and we are grateful for the Royal College of Radiology's endorsement of Breast Medicine as a relevant and significant area of clinical practice.

Dr Lauren Arnold
President, ASBP
February 2024

Dr Katrina Tiller
Chair, Education Committee ASBP
February 2024

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List of Abbreviations

AHPRA	–	Australian Health Practitioner Regulation Agency
ASBP	–	Australasian Society of Breast Physicians
BIA-ALCL	–	Breast Implant Associated Anaplastic Large Cell Lymphoma
BPE	–	Background Parenchymal Enhancement
CbD	–	Case-based Discussion
CEM	–	Contrast Enhanced Mammography
CIA	–	Critical Incident Analysis
CPD	–	Continuing Professional Development
DOPS	–	Direct Observation of Procedural Skills
FASBP	–	Fellow of the Australasian Society of Breast Physicians
FNA	–	Fine Needle Aspiration
FRACS	–	Fellow of the Royal Australian College of Surgeons
FTE	–	Full time equivalent
GP	–	General Medical Practitioner
IIE	–	Imaging Interpretation Exercise
MCNZ	–	Medical Council of New Zealand
MDT	–	Multi Disciplinary Team
MG	–	Mammogram
MRR	–	Medical Records Review
MRI	–	Magnetic Resonance Imaging
NAS	–	National Accreditation Standards
NPQS	–	National Policy and Quality Standards
OCA	–	Observed Clinical Activity
OCP	–	Oral Contraceptive Pill
PEM	–	Positron Emission Mammography
PET	–	Positron Emission Tomography
PGY	–	Post Graduate Year
QA	–	Quality Assessment
QI	–	Quality Improvement
RANZCR	–	Royal Australian and New Zealand College of Radiologists
SERM	–	Selective Estrogen Receptor Modulator
SPRG	-	Supervisor Peer Review Group
TNM	–	Tumour Node Metastasis
UK	–	United Kingdom
US	–	Ultrasound
VAB	–	Vacuum Assisted Biopsy
VAE	–	Vacuum Assisted Excision
WBA	–	Workplace Based Assessment

1. Introduction

Breast Medicine Definition

Breast Medicine is defined as:

The branch of clinical medicine which incorporates medical management of breast conditions including breast screening; specialised clinical and imaging assessment of breast symptoms; investigation, diagnosis and non-surgical treatment of breast disease as well as risk assessment, counselling and appropriate surveillance of patients at increased risk of breast cancer and survivorship care/ long-term care of people who have experienced breast cancer.

Breast Physician Definition

A Breast Physician is a clinician who, following a period of training and assessment, practices in the field of Breast Medicine.

The Australasian Society of Breast Physicians

The Australasian Society of Breast Physicians (ASBP) supports and promotes the professional role of breast physicians by representing members at state and national levels.

It assesses against vocational standards and competencies within the definition of Breast Medicine. It awards various levels of certification to those members who have successfully completed the training program outlined in this document. It awards Fellowship of the ASBP to those members who complete the full Breast physician training program.

For further information regarding membership of the ASBP please refer to our website, www.breastphysicians.org.

Breast Medicine in Australia and New Zealand

'Breast physician', a term used since 1990 in Australia and New Zealand, describes a medical practitioner who, following a period of training and assessment, works clinically in the field of breast medicine, adopting a holistic approach to investigation and management.

Breast physicians have worked in their specific role since 1980. Breast physicians contributed to the pilot screening projects completed two years before the 1990 launch of BreastScreen Australia. In addition to being an integral part of the multidisciplinary team, many breast physicians also work as independent practitioners in their own practices.

Multidisciplinary breast teams began in Australia and New Zealand in 1978, when a group of doctors with a particular interest in breast diagnosis adopted a collaborative approach and established the Sydney Breast Clinic. This was followed in 1982 by the Wesley Breast Clinic in Brisbane and in the early 1990s by St Marks Breast Clinic and other New Zealand clinics following the same model.

In these multidisciplinary clinics, which included radiologists, surgeons and pathologists, patients with breast symptoms were able to have all their clinical, imaging and interventional diagnostic procedures performed in one visit, at one location – a vast improvement on the fragmented approach otherwise required.

This coordinated and evidence-based approach has become the norm, streamlining diagnosis and management of patients with breast cancer. It achieves the best outcomes for patients with breast symptoms.

A similar integrated approach is used at BreastScreen Assessment Clinics when asymptomatic women are recalled by a Screening service for evaluation of a mammographic abnormality detected at screening.

The need for breast physicians

There is increasing demand on breast services yet a concurrent workforce shortage across all disciplines in breast medicine. This is a common factor in Australia, New Zealand and the UK, where screening services were established in the late 1980s and early 1990s.

The combination of a dwindling experienced workforce and increased complexity in breast imaging technology, such as the addition of tomosynthesis, contrast-enhanced mammography, breast MRI and the increase in image-guided excisions, is increasing the demand being put on breast services. Concurrently, breast surgeons in private practice are strained by the volume of women they are seeing in post-cancer follow-up clinics, and seek breast physicians to work with them - managing benign breast conditions, assisting in pre-operative work-up, monitoring women post cancer treatment and managing treatment side effects. Similarly, oncology units are seeking breast physicians to transition patients from outpatient follow-up back to their GPs' care, via a program of patient and GP education.

The precedent of boosting the breast medicine workforce via a collaborative training effort was set in 2019 in the UK where the Association of Breast Clinicians (the UK equivalent of the ASBP), the National Breast Imaging Academy and Health Education England joined together with the Royal College of Radiologists to implement a new credential in breast disease management. As is our goal in Australia and New Zealand, the UK program seeks to standardise training and to increase the workforce to support public and private breast screening and symptomatic services.

The role of a breast physician

Breast physicians support both clinical and breast imaging services, offering a comprehensive approach to breast disease management which is of considerable benefit to patients. Breast physicians have a detailed knowledge of breast disease, diagnostic expertise, and skills in providing advice, follow-up and management - particularly for benign breast disease for which surgery is not needed, and for which medical or hormonal management is appropriate.

In a dedicated breast unit, breast physicians examine patients, interpret imaging, undertake and interpret sonography, perform interventional procedures, manage benign conditions, counsel patients, and manage surveillance of women at increased risk of breast cancer.

Breast physicians perform breast cancer risk assessment and screening, genetic and family history assessment, contribute to high-risk clinics, plan, triage and coordinate pre- and post-surgical management, as well as being an integral part of cancer follow-up clinics and managing issues of breast cancer survivorship.

Over time, the multidisciplinary breast team has evolved to also include breast care nurses, geneticists, breast imaging technicians, and medical and radiation oncologists, however, breast physicians, who sit at the intersection of clinical, radiological and management functions, continue to have a pivotal role. The breast physician performs a wide range of functions overlapping each of these disciplines and must develop extensive knowledge of all the specialties involved in the investigation and management of patients with breast problems.

In public screening services (BreastScreen Australia/ BreastScreen Aotearoa) the breast physician's role varies according to local requirements, but includes clinical assessment, counselling, reading screening mammograms and the diagnostic evaluation of mammographic abnormalities through performing breast ultrasound and breast biopsies.

2. ASBP Standards of Training and Competence

The aim of this curriculum is to standardise the training for breast physicians in Australia and New Zealand. This formalises a training pathway and scope of practice that is recognised on a national level, ensuring that breast screening and diagnostic breast services in Australia and New Zealand will have the workforce they require in the future.

The following Standards of Training and Competence document ("ASBP Curriculum") provides a training framework, describing the capabilities and competencies required to achieve Fellowship of the ASBP. An Advanced Certificate of breast medicine is also offered, as well as certification in individual modules for those doctors who have a desire to increase their knowledge in breast medicine but do not wish to undertake the full training required to become a breast physician.

The ASBP Curriculum indicates the minimum expected levels of knowledge, skill and clinical decision making required of a competent breast physician, whether working in a public or private setting. These standards will:

- assist health regulatory and professional bodies in benchmarking safe practice for breast physicians
- provide a framework for future training programs, and for the assessment of breast physicians
- provide guidance to health regulatory bodies for health workforce planning
- assist patients in choosing a qualified breast physician.

2.1 The Curriculum Design

Breast medicine training towards Fellowship or Advanced Certificate level can be undertaken on a full-time or part-time basis while working in a supervised clinical breast medicine position in an appropriate workplace (see 9.2 Standards for breast medicine training facilities).

The curriculum incorporates principles and strategies of adult learning, specifies volume of practice and describes the workplace-based assessments and level of competency that trainees will need to develop over the course of their training.

The curriculum has been developed according to the following key principles and strategies of adult learning:

Patient and Community focused: All learning is aimed at addressing the health needs of patients and the health systems needs of the populations served.

Learner-driven: Trainees are involved in identifying their own learning needs and developing learning plans.

Experiential learning under supervision: Learning primarily occurs within the context of clinical practice, under graduated supervision matched to the trainee's competence to ensure safe patient care.

Reflection and self-assessment: Trainees review their experiences and make judgments on their own performance in order to improve subsequent performance.

Regular feedback: Trainees use progressive feedback to develop action plans that reinforce and develop their learning and professional practice.

Spiral learning: Learning is sequenced so new ideas build on already known concepts and skills.

Integrated learning: Development of expertise in Clinical diagnosis and management in breast medicine (Part A modules) is complemented by concurrent learning in Breast Imaging theory and Practical skills acquisition (Part B modules).

Flexible learning: Individuals learn at different rates. Although minimum durations of time may be applied to facilitate experiential learning, the expected duration to attain competence is variable. Sequencing of learning is flexible to account for the different learning opportunities available in different learning contexts.

Entrustment: Progression through training and the granting of increasing levels of responsibility depends on the assessment of the trainee's capability to reliably perform specific clinical tasks.

Programmatic Assessment: The assessment methods form an integrated system of assessments, which support and extend learning through the different stages of the training program. These are closely linked to the desired learning outcomes of the modules in Parts A and B of the curriculum.

Assessment of learning: The program of assessment aims to ensure that breast physicians are knowledgeable, skillful professionals able to be entrusted with the work of their profession.

Lifelong learning: Trainees learn to judge the quality of their own clinical and imaging performance, enabling them to become self-regulating learners and manage their own learning.

(list adapted from the ANZCA Anaesthesia Training Program Curriculum)

2.2 Key Sections of the Curriculum

The key sections of the curriculum are:

- Breast Physician Competencies
- Clinical diagnosis and management in breast medicine (Part A modules)
- Breast Imaging theory and Practical skills acquisition (Part B modules)

Breast Physician Competencies are defined as those clinical capabilities or qualities required for independent practice as a fully trained Breast Physician. These are summarised below *(3. Competence and Qualities of a Breast Physician)* and specific competencies are listed at the start of each module to clarify the purpose of that module.

Modules in Part A: Clinical diagnosis and management in breast medicine define the fundamental clinical knowledge, diagnostic skills and management skills that breast physicians require.

Modules in Part B: Breast Imaging theory and Practical skills acquisition define the required radiological competencies of the curriculum.

Knowledge and skills in these areas are developed concurrently throughout training and not in any mandated order. Content of the curriculum intersects and overlaps between the three sections.

The curriculum document is designed to be used alongside the ASBP Learning Portfolio which is where trainees document their progress. Assessment is documented on individual workplace-based assessment forms which correspond to each type of assessment and contain a number of individual items for rating by the assessor.

Workplace-based assessment provides a framework to support teaching and learning in the clinical environment and promotes a holistic view of a trainee's clinical practice. Trainees have the opportunity to assess their own learning and are expected to use feedback from these assessments to inform and develop their own practice.

While the goal of workplace-based assessment is to aid trainee learning, these assessments, along with the Learning Portfolio can be used to create a record to demonstrate development of knowledge and skills and should be submitted to the Education Committee on a 6 monthly basis to demonstrate trainee progression.

The ASBP recognises that not all breast physicians will train or ultimately work in centres where their direct clinical and procedural responsibilities will include all these modules. However, candidates for Fellowship must acquire core knowledge and competencies in all learning modules.

3. Competence and qualities of a breast physician

Following completion of the training program, breast physicians will be able to demonstrate competence in clinical and imaging skills and knowledge relevant to the investigation and management of breast disease.

The ASBP has identified the following required competencies for clinical practice in Breast Medicine:

- Detailed knowledge of breast symptomatology and clinical signs
- Understanding of epidemiological principles and population health strategies including breast screening
- Understanding and interpretation of breast imaging modalities
- Understanding genetic issues and risk management strategies
- Understanding cytopathological and histopathological principles of breast disease
- Understanding reproductive endocrinology and associated hormonal effects including the impacts of pharmaceutical hormones
- Highly developed counselling and communication skills
- Investigation of breast conditions, including the ability to appropriately select and tailor breast imaging to suit patient context and clinical risk/benefit issues
- Medical management of benign breast conditions
- Ability to appropriately investigate, diagnose and manage breast cancer, including thorough clinical-imaging-pathological correlation, communication, counselling, surgical and oncological referral, participation in the multidisciplinary team, and medical management post breast cancer
- Performance of image-guided interventional procedures such as core biopsy
- Detailed understanding and application of appropriate surveillance, counselling and tertiary referral for women at higher than population risk of breast cancer
- Ability to interpret and willingness to take part in research projects relevant to breast medicine

Breast physicians should possess the following professional qualities:

- Professional and ethical responsibility, and familiarity with the relevant Medical Board's code of conduct, which may be downloaded here:

  Good medical practice: a code of conduct for doctors in Australia
  Medical Board of Australia - Good medical practice: a code of conduct for doctors in Australia

  Medical Council of New Zealand: code of conduct and professionalism
  https://www.mcnz.org.nz/our-standards/current-standards/good-medical-practice/

- Commitment to inter-professional communication, collaboration and multidisciplinary care
- Commitment to reflection, quality improvement and continuing professional development
- Engagement in evidence-based practice
- Safeguarding of data, including imaging data
- Commitment to health advocacy
- Appreciation of the accreditation requirements across the spectrum of practice of breast medicine.

In addition to being an integral part of the multidisciplinary team, breast physicians are able to work as independent practitioners administering their own practice.

The scope of the breast physician does **not** include the following:

- *Operative breast management*: except for image-guided vacuum excisions, and minor clinical procedures such as skin punch biopsy and mini-incision for abscess drainage
- *Medical oncology breast treatments*, although training will include medical management post breast cancer
- *Clinical management of metastatic breast cancer*
- *Clinical radiology outside of breast imaging modalities*

4. Training to become a breast physician

Breast physician trainees must apply to the Australasian Society of Breast Physicians for associate membership, and must demonstrate the following:

- current general registration (unconditional) with the Australian Health Practitioner Regulation Agency (AHPRA) or full general or vocational medical registration with the Medical Council of New Zealand (MCNZ)
- minimum 3 years (FTE) of relevant clinical experience following PGY2
- a position in an ASBP recognised breast training centre *or* a position in a unit that is likely to qualify as a training centre (see 9. Training centres and supervision)
- participation in a recognised CPD program as per AHPRA and MCNZ regulations.

The requisite period of training to achieve ASBP Fellowship is minimum 3 years full-time (or part-time equivalent) experience in a dedicated breast diagnostic service and/or BreastScreen Australia/ BreastScreen Aotearoa.

Full-time is estimated at 32 hours per week, over a 47-week year, giving a minimum requirement of 4500 hours experience as the part-time equivalent.

Trainees who change their employer or their supervisor during training must notify the ASBP promptly by emailing the Chair of Education. It is a requirement of the training program that trainees remain in a suitable breast training centre for the duration of their training.

4.1 Pathway to Fellowship

The program of learning is individual and largely self-directed. Modules are completed at the trainee's own pace. The trainee's nominated primary supervisor is responsible for signing off on satisfactory progress in workplace-based assessments (WBA). The trainee is responsible for submitting progress reports to the ASBP Education Committee on a 6 monthly basis.

Demonstrable progression of the trainee's knowledge and competencies - based on the ASBP Curriculum - must be submitted to the ASBP on a 6-monthly basis, or less frequently by arrangement with the Chair of the Education Committee in the case of part-time trainees.

4.2 Application process for training in the ASBP program

1. Read through the 'ASBP Standards for Training and Competence of Breast Physicians' – ensure you satisfy the criteria for becoming a trainee

2. Make contact with a suitable supervisor in your workplace and request that they supervise your training. You should show the supervisor the training requirements. Contact the ASBP

for help to engage a co-supervisor if no FASBP is available in your workplace

3. Complete the trainee registration process: both trainee and supervisor (and co-supervisor/s if applicable) must review the ASBP curriculum document prior to signing the trainee registration form.
This is to ensure that everyone involved understands the requirements and responsibilities and commitment of being a trainee and of being a supervisor / co-supervisor.

4. Complete the ASBP Trainee registration form and payment:
Cost of Registration as a trainee is a one-off payment. On acceptance of your registration form you will be sent an invoice for the registration fee.

You and your Supervisor/s will then be:
- given separate personal passwords which allows each of you access to the ASBP training modules, the Learning Portfolio, Resources List and the ASBP Assessment documents (all accessed via the ASBP website.)
- allocated a Supervisor Peer Review Group (SPRG)
- be advised of the due dates for submission of evidence of progression (this occurs twice a year)
- be given the SPRG mid-year and end of year dates when your evidence of progression in modules will be reviewed.

5. Annual fees while training are:
The usual ASBP associate membership fee, due at the end of each financial year.
Trainee document review fee. This annual fee covers the administration and meeting costs associated with:

- the Supervisor Peer Review Group's review of the trainee's learning portfolio and assessment documents every 6 months.
- the ASBP Board's Review of the trainee's overall progression which occurs at the end of each year.

The fee may be adjusted on an individual basis if you are planning on completing modules at an unusually slow pace and will be submitting a substantially reduced number of modules for review in a calendar year. The reduced fee will be no less than half the FTE annual document review fee. All fees are in the dollar value of the country in which the trainee resides, regardless of the AUD/NZD exchange rate. *Please email the ASBP for current fees.*

6. Following completion of all requirements of training at the end of your period of training, your Supervisor will submit a letter certifying you have completed all expected modules and assessments.

7. The final step in training is the Exit presentation/ interview. You will be required to present your clinical or research project (or by arrangement, another pre-prepared presentation). It is an opportunity to discuss with the interview panel your career interests and opportunities for career development - with the objective of setting professional goals and developing an individual learning plan (this is a requirement for Australian CPD programs).
The panel will also take this opportunity to seek feedback to assist future trainees and improve the training program.

The panel for the exit interview will consist of experienced Fellows of the ASBP, Radiologists and Surgeons who work predominantly in Breast Medicine. The Exit Presentation may be conducted in person or online, and depending on the number of candidates, may be held in conference format with each trainee presenting to the whole cohort followed by a group discussion.

4.3 Levels of Awards:

Fellowship of the ASBP *(allowing use of the post nominal 'FASBP' and the title Breast Physician)* is awarded following:

- satisfactory completion of the complete ASBP training curriculum including all 18 modules in Parts A and B plus one Clinical or Research Project, under an appropriate supervisor in a facility that meets the standards of the ASBP (see below) *and*
- submission of documentation which demonstrates completion of the required modules of training at an acceptable standard, *and*
- presentation of the trainee's project at a final interview.

Advanced Certificate of the ASBP is awarded following:

- satisfactory completion of 9 modules from Part A and/or Part B of the ASBP training curriculum (5 compulsory* and 4 elective) plus one Critical Incident Analysis Report or one Clinical Project or one Research Project under an appropriate supervisor in a facility that meets the standards of the ASBP (see below) *and*
- submission of documentation which demonstrates completion of the required modules of training at an acceptable standard, *and*
- presentation of the trainee's report or project at a final interview.

**The compulsory modules for this level are: A3, A4, A5, A8 and A9. An Advanced Certificate may be gained without completing any Part B modules.*

A 'Certificate of Completion' of an individual module is awarded following:

- satisfactory completion of any *one* individual module from Part A or Part B of the ASBP training curriculum under an appropriate supervisor in a facility that meets the standards of the ASBP (see below) *and*
- submission of documentation which demonstrates completion of the module of training at an acceptable standard

Individually completed modules may be used in the future towards an Advanced Certificate, and an Advanced Certificate may be upgraded to a Fellowship at any time by completing the remaining required modules.

Only completion of the full ASBP curriculum confers use of the title Breast Physician.

4.4 Costs

See 4.2

SUMMARY OF LEVELS OF ASBP TRAINING

LEVEL	Duration of training	Confers use of title "Breast Physician"	Qualification gained	Number of Modules required	Modules required	Project Required	Learning Portfolio required	Costs (enquire for current fee levels)
Fellowship	3 years FTE	*Yes*	FASBP	18	A 1-9 B 1-9	one clinical *or* research project	yes	Training registration fee (one-time fee) Annual document review fee
Advanced Certificate	No less than 12 months FTE	*No*	Advanced Certificate	9	A3, A4, A5, A8, A9 plus 4 own choice modules	One critical incident analysis report *or* one clinical *or* research project	yes	Training registration fee (one-time fee) Annual document review fee
Individual module	negotiable	*No*	n/a	minimum 1	Own choice	nil	yes	Registration fee (one-time fee) Fee per module

Notes:

1. Submission of evidence of progression is required twice a year regardless of the number of modules you are completing concurrently. Modules are not expected to be complete at the time of submission, but evidence of progression must be evident in your Learning Portfolio and Assessment Forms.

2. The annual document review fee may be reduced (on an individual basis) if you are planning on completing modules at an unusually slow pace meaning you will be submitting a substantially reduced number of modules for review in a calendar year.

3. All fees are in the dollar value of the country in which the trainee resides, regardless of AUD/NZD exchange rate.

4.5 Supervision (see also Section 9: Training centres and supervision)

Trainees are expected to take responsibility for their own learning with regular input from a supervisor who is usually a Fellow of the Australasian Society of Breast Physicians (FASBP).

If no FASBP-qualified person is available in the breast unit, a Breast Surgeon who is a Fellow of BreastSurgANZ or a Breast Radiologist who is a member of the Breast Imaging Group of the Royal Australian and New Zealand College of Radiologists (RANZCR) may act as the primary supervisor with a Fellow of the ASBP as co-supervisor.

There should be close communication between the trainee, the primary supervisor and the co-supervisor. Both the supervisor and the co-supervisor are expected to undertake workplace based assessment of the trainee. The co-supervisor may do this remotely.

The co-supervisor is responsible for providing guidance to the primary supervisor and the trainee in relation to the training requirements for Fellowship, and for identifying any training gaps. The co-supervisor will work with the primary supervisor and the trainee to develop and monitor a learning plan to address training deficits.

The primary supervisor is responsible for instigating regular communication and feedback to the co-supervisor on the trainee's performance and progress which, at a minimum, should include:

- regular 4 monthly formal meetings to discuss trainee performance and progress
- timely discussion of any identified training deficits or issues with clinical performance as they arise;
- sharing of information from formal feedback sessions with the trainee; and
- sharing of continuous assessment and workplace based assessments.

At least one of each trainee's Supervisors (preferably both) will participate in a **Supervisor-Peer Review Group** meeting twice a year.

The primary supervisor must:

a. hold unrestricted registration as a medical practitioner with the Australian Health Practitioner Registration Authority (AHPRA) or the Medical Council of New Zealand (MCNZ).

b. be a practising breast physician (FASBP), breast radiologist (FRANZCR and member of the Breast Imaging Group) or breast surgeon (FRACS and member of Breast Surgeons of Australia and New Zealand BreastSurgANZ).

c. work in the same breast unit as the trainee breast physician and able to provide direct supervision of learning.

d. be registered with ASBP as the training supervisor and agree to the responsibilities of supervision as outlined in this document, which amount to at least 1 hour face to face per week.

e. agree to work as above with a co-supervisor if necessary

If the primary supervisor is not a breast physician (FASBP) then a co-supervisor must be appointed. In this circumstance, the breast physician trainee must:

a. apply to the ASBP Board for approval *and*

b. identify a Fellow of the ASBP as co-supervisor or apply to the ASBP Board for appointment of a co-supervisor.

The role of a co-supervisor is outlined above and includes identifying training gaps, assisting the BP trainee in addressing these, providing overall mentorship, and participating in a Supervisor-Peer Review Group meeting twice a year.

4.6 Recognition of prior learning

Breast physician trainees starting the training program may already have training, experience or competence comparable with components of the training program.

On a case-by-case basis, credit may be given for relevant self-guided or formal learning obtained prior to enrolling in the training program. Evidence of learning is required which demonstrates the trainee's competence **in the specific modules outlined in the ASBP curriculum.**

The outcome of the recognition of prior learning process, if successful, is exemption from providing any further evidence of learning (eg learning portfolio or workplace based assessments) for those specific modules for which credit is granted.

Individual application for recognition of prior learning must be made in writing to the ASBP Education Committee for consideration by the ASBP Board. A fee will apply to cover administration costs associated with reviewing the trainee's evidence of prior learning.

4.6.1 Submitting evidence

Evidence of Prior Learning should be documented module by module and address the required "knowledge and understanding" listed for each module in the ASBP training curriculum for which credit is being sought. Documentation should clearly indicate which objective has been fulfilled by each point of evidence.

It should be discussed with the trainee's primary supervisor.

- It can include one, or a mix, of the following two kinds of evidence:

1. Completion of a relevant course, workshop or qualification, or attendance at a conference.

Documentation of this type must include:

- Date completed
- Official Certificate of completion
- Number of hours of study (breakdown is required: eg: face-to-face hours, online tuition, hours of personal study involved/preparation hours/ assignment hours)
- Method of assessment
- A copy of the course curriculum including course objectives

2. Completion of the Learning Portfolio for that Module, addressing all areas in the ASBP training curriculum for that Module.

Documentation of this type must include:

- Completed Learning Portfolio, or equivalent written documentation:

eg articles, reports or publications you have authored or contributed to, or any other relevant documentation that demonstrates your experience and knowledge in this area.

- Evidence of Assessment (ASBP workplace based assessment forms or equivalent performance appraisals)

3. Supplementary evidence - optional

- A copy of your Job Description
- Employer references that support your claim
- Any other relevant documentation that demonstrates your experience and knowledge.

4.6.2 Tips for building your portfolio of evidence

To ensure your evidence meets the requirements, please follow these guidelines:

- Authenticity - Your evidence must be genuine and verifiable. It must be your own work, and you must demonstrate the necessary skills and knowledge.

- Currency - Your evidence must be up-to-date and relevant to the qualification you're seeking. If your evidence is outdated, you may need to provide additional evidence or undergo further training.

- Sufficiency - Your evidence must be sufficient to demonstrate your required knowledge and skills. You must provide enough evidence to prove your competence in all areas of your claim.

- Relevance - Your evidence must be relevant to the qualification you're seeking. Focus on providing evidence that directly supports your claims of competence.

- Easy to assess – Your evidence should be presented in a manner that makes it easy for assessors to verify the above points.

5. Assessment Overview

Specific workplace-based assessment forms correspond to each type of assessment and contain a number of individual items. Each item has a descriptor, developed from learning outcomes within the ASBP curriculum, which prompts the assessor to consider certain aspects of the trainee's performance. The assessor is required to rate the trainee on each item. See Section 10 for details

> Assessment may be performed by any person that the trainee's primary supervisor considers appropriately qualified to perform that particular assessment.

For example, a breast sonographer may be asked to assess the trainee's hands-on ultrasound skills; a breast radiologist may be asked to complete image interpretation exercises (IIE); a family genetics consultant may be the appropriate person to assess a Case-based Discussion on Risk Assessment.

Assessment consists of:

1. **Continuous workplace-based assessment** overseen by the trainee's nominated supervisor. This is submitted - in the form of the trainee's Learning Portfolio and any completed workplace based assessment forms - to the ASBP education committee via the trainee's *Supervisor Peer Review Group (SPRG)* every 6 months (or less often by arrangement with the Chair of the education committee). Satisfactory progress is required in each assessment period.

2. **Assessment by the ASBP education committee/ASBP Board** of evidence of progression on an annual basis. Satisfactory progress is required in each assessment period.

3. **Evidence of satisfactory completion of all modules and competencies** (including the clinical audit/Quality Improvement (QI)/ research project). This evidence (in the form of completed learning portfolio, evidence of completion of all modules and WBAs) must be submitted to the ASBP education committee for assessment. The primary supervisor is responsible for certifying (via a Letter of Satisfactory Completion of Training) to the ASBP

Education Committee that the trainee has completed the breast physician education curriculum to an acceptable standard.

4. Project Presentation and exit interview

The final step in training is the Exit presentation/ interview. You will be required to present your clinical audit or research project (or by arrangement, another pre-prepared presentation). It is an opportunity to discuss with the interview panel your career interests and opportunities for career development - with the objective of setting professional goals and developing an individual learning plan (this is an annual requirement for Australian CPD programs).
The panel will also take this opportunity to seek feedback to assist future trainees and improve the training program.

The panel for the exit interview will consist of experienced Fellows of the ASBP, Radiologists and Surgeons who work predominantly in Breast Medicine. The Exit Presentation may be conducted in person or online, and depending on the number of candidates, may be held in conference format with each trainee presenting to the whole cohort followed by a group discussion.

6. Supervisor Peer Review Groups (SPRG)

Each Supervisor (and their co-supervisor) will be allocated to a Supervisor Peer Review Group which reports to the ASBP Chair of Education.

Each Supervisor Peer Review Group is made up of the ASBP supervisors and co-supervisors of up to 5 trainees, plus the Chair of the Education Committee and one other ASBP Board member.

The purpose of the **Supervisor Peer Review Group** is to:

- Monitor trainees' progress
- Provide peer support for Supervisors (primary supervisors and co-supervisors)
- Provide feedback to the Chair of Education and the ASBP Board re suggested modifications to the training program, the assessment regimen, documentation and processes
- Provide a forum for supervisors to discuss unsatisfactory trainee progression and any trainee performance or assessment concerns
- Develop recommendations for remedial action for trainees who appear to be at risk of lack of progress, including devising and administering an appropriate remediation plan.

Each group will meet on a 6 monthly basis.

7. Performance and Progression

Individual trainees' progress will be monitored by regular review as outlined in Section 5 above. In this way, any requirements for additional or targeted training should be able to be identified in a timely manner. Most difficulties, if promptly identified, should be resolved with the support of the trainee's Supervisor/s.

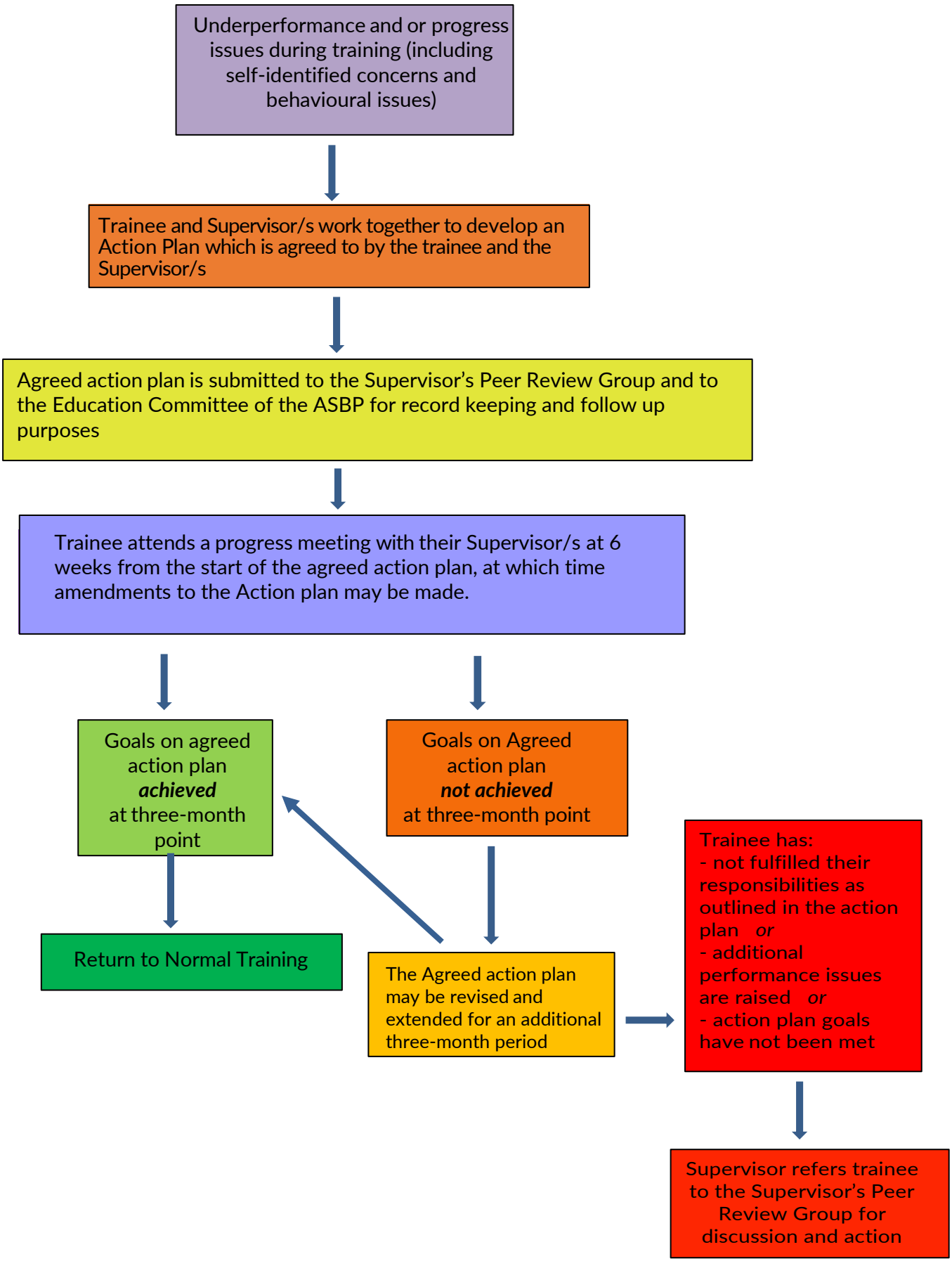
"Difficulty" means any circumstance which detrimentally impacts on a trainee's performance and/or rate of progression through training. Such circumstances may include an adverse event, extrinsic factors (such as personal/home issues), competence issues, lifestyle issues, psychological issues and/or workplace stressors.

The following principles should be used:

- early identification of issues affecting a trainee's performance and/or progression is key
- issues of patient and personal safety take precedence over all other issues
- treatment of trainees must be fair and equitable
- confidentiality is to be maintained
- if a trainee is exhibiting notifiable conduct as defined by the Australian Health Practitioner Regulation Agency (AHPRA) or the Medical Council of New Zealand (MCNZ), there exists an obligation to report the matter to the relevant authority.

The following diagram outlines steps to be taken in the case of identified performance difficulty. An Action Plan pro forma can be obtained from the ASBP Chair of Education. This should be completed by the supervisor and trainee and lodged with the Chair of Education and the supervisor's Peer Review Group.

Performance and Progression Flowchart



*Adapted from 'Performance and Progression Policy' of the Royal Australian and New Zealand College of Radiologists

8. Teaching and Learning Methods

Competencies and core knowledge may be obtained through a variety of modes of learning from face-to-face didactic teaching through to experiential learning in the workplace.

The proportion of time allocated to different learning methods will vary depending on the content of each module (eg imaging skills, clinical skills, genetics etc).

8.1 Workplace-based experiential learning

This encompasses learning 'on-the-job' and may include:

- 'side-by-side' radiological interpretation sessions with gradual reduction in supervision as competence increases
- observed clinical history and examination, with gradual reduction in supervision as competence increases
- BreastScreen Assessment clinics
- Family History / Risk Assessment sessions: clinical sessions with an experienced breast physician, breast surgeon or clinical geneticist to discuss scenarios and preferably hands-on training in a family risk/genetics clinic
- oncology sessions: attachments within a breast oncology setting, e.g. outpatients clinic
- multidisciplinary team meetings.

The degree of responsibility taken by the trainee will increase as competency increases. There should be appropriate levels of supervision throughout training with increasing independence and responsibility as knowledge, understanding and competence are achieved.

8.2 Postgraduate learning

This may include:

- formal teaching sessions (eg ultrasound, mammography interpretation, image-guided procedural skills), and may be face-to-face or online
- case presentations within the workplace or to a study group/ peer group
- journal club
- Small Group Learning with peers
- research, audit and quality improvement projects
- radiological workshops and interventional demonstrations and workshops
- meetings / conferences with other breast specialties (eg Breast Imaging Group, Australasian Society of Breast Disease, BreastSurgANZ).

8.3 Self-directed learning

This includes:

- reading (texts, journals and web-based material)
- e-learning (webinars, podcasts and e-courses)
- maintenance of personal records in the ASBP Learning Portfolio (completed readings, self-assessment tasks, analytical learning, personal development plans, logbooks)
- audit, quality improvement and research projects.

8.4 Formal courses and meetings

These are not compulsory but are strongly recommended. Appropriate choices for trainees' individual stage of training should be discussed with supervisors.

- national conferences, eg Australasian Society of Breast Disease (ASBD) scientific meetings, RANZCR Breast Imaging Group meeting, BreastScreen Australia Conferences, Leura International Breast Cancer Conference.
- a communication skills course, preferably with a focus on 'breaking bad news'
- mammography, tomosynthesis and ultrasound interpretation training courses
- courses and study days on breast disease diagnosis and treatment
- Clinical Genetics / Family History / Cancer Risk Assessment courses.

Clinical supervisors should encourage educational opportunities in the course of daily clinical work. These may include:

- learning from practice
- learning with peers: eg small group sessions
- informal one-to-one and formal teaching sessions
- personal study time.

9. Training centres and supervision

9.1 Clinical settings

Trainees who change their employer or their supervisor during training must notify the ASBP education committee. It is a requirement of the Training Program that trainees remain in a suitable breast unit for the duration of their training.

The breast physician trainee requires clinical involvement of sufficient volume and diversity of breast problems to develop competence in diagnosis and management. This may mean that additional clinical or imaging training needs to be undertaken at another breast facility.

The clinical setting may be either a screening or a diagnostic environment whose radiology practice is accredited with the Royal Australian and New Zealand College of Radiologists.

Independent breast clinics without on-site imaging must have access to high quality imaging in a practice with mammographic accreditation and must ensure that the trainee spends adequate time training in breast imaging interpretation at that imaging facility.

9.2 Standards for breast medicine training facilities

Training facilities for breast physician trainees should satisfy the following requirements:

a. the breast unit should have clearly documented clinical policies and procedures which are readily available at all times

b. the breast unit must provide excellent learning opportunities for the breast physician trainee to be exposed to a wide range of breast conditions

c. the unit should offer (or facilitate access to) the full range of standard investigations of breast symptoms or signs, namely imaging, interventional investigations, pathology, surgical opinion and counselling, and should also offer management-planning advice subsequent to the initial presentation.

   If the full range of standard investigations is not available on-site, it is expected that Supervisors will liaise with colleagues at other sites to facilitate the trainee gaining experience in all areas.

d. there should be access to reference materials and patient-information products

e. there should be access to digital breast imaging teaching cases (mammograms, ultrasound images and clinical notes) detailing both benign and malignant imaging features

f. the BP trainee should be allowed adequate time to learn new skills as well as to develop clinical expertise

g. service demands should not be excessive and should consider both the needs of patients for continuity of care as well as the educational needs of the breast physician trainee

h. breast unit staff should be informed of the level of responsibility that it is reasonable to expect of the BP trainee as they progress through the levels of training.

9.3 Supervision

Trainees are expected to take responsibility for their own learning with regular input from a supervisor who is a Fellow of the Australasian Society of Breast Physicians (FASBP). We recommend the use of a ***Teaching Activity Schedule*** which is an active working document – preferably able to be accessed simultaneously online by the trainee and their supervisor/s (eg in Teams, Google docs or similar) – which outlines the current agreed schedule of teaching. An example document is available in the Learning Portfolio and can be copied and adapted for personal use.

If no FASBP-qualified person is available in the breast unit, a Breast Surgeon who is a Fellow of BreastSurgANZ or a Breast Radiologist who is a member of the Breast Imaging Group of the Royal Australian and New Zealand College of Radiologists (RANZCR) may act as the primary supervisor with a Fellow of the ASBP as co-supervisor.

There should be close communication between the trainee, the primary supervisor and the co-supervisor so that the co-supervisor can assist in identifying gaps in knowledge and training and assist the trainee in addressing these.

Both the supervisor and the co-supervisor will undertake workplace based assessment of the trainee. The co-supervisor may do this remotely.

At least one of each trainee's Supervisors (preferably both) will participate in a **Supervisor-Peer Review Group** meeting twice a year.

The primary supervisor must:

d. hold unrestricted registration as a medical practitioner with the Australian Health Practitioner Registration Authority (AHPRA) or Medical Council of New Zealand (MCNZ)

e. be a practising breast physician (FASBP), breast radiologist (FRANZCR and member of the Breast Imaging Group) or breast surgeon (FRACS and member of Breast Surgeons of Australia and New Zealand BreastSurgANZ).

f. Work in the same breast unit as the trainee breast physician and able to provide direct supervision of learning.

d. Be registered with ASBP as the training supervisor and agree to the responsibilities of supervision as outlined in this document, which amount to at least 1 hour face to face per week.

If the primary supervisor is not a breast physician (FASBP) then a co-supervisor must be appointed. In this circumstance, the breast physician trainee must:

c. apply to the ASBP Board for approval and

d. identify a Fellow of the ASBP as co-supervisor or apply to the ASBP Board for

appointment of a co-supervisor.

The role of a co-supervisor includes identifying training gaps and assisting the BP trainee in addressing these, providing overall mentorship, and participating in a Supervisor-Peer Review Group meeting twice a year.

9.4 Guidance for supervisors

High-quality, regular, formative assessment with constructive feedback is an integral part of education and training. The supervisor (in conjunction with the co-supervisor if one exists) will support the learning of the trainee.

The role of the supervisor/co-supervisor includes:

- undertaking supervision of the trainee's experience in the breast unit
- being available to guide learning and provide support when required, in order to gradually increase the breast physician trainee's experience and responsibility
- ensuring that the trainee has a balanced workload which encourages a breadth of experience and adequate learning opportunities
- monitoring and managing the trainee, including providing constructive feedback about the trainee's performance, including regular informal feedback and formal feedback sessions
- completing the required continuous assessment (Workplace-Based Assessments)
- completing supervisor's reports at the required intervals during and on completion of training.

Particular responsibilities of the supervisor/co-supervisor include:

- providing a range of teaching methods, including direct observation, participation in clinical procedures, discussion of clinical problems, joint consultations, formal teaching of topics
- providing feedback on clinical strengths and weaknesses, consulting style and communication and counselling skills
- identifying gaps in an individual trainee's knowledge or competency and being able to facilitate further training opportunities to fill that gap: for example, by attending a genetics clinic, visiting radiotherapy or oncology units, attending a practice which performs CEM etc
- being able to identify unsatisfactory progress and having a procedure to counsel the trainee accordingly and
- communicating with the ASBP Chair of the Education Committee in the event of any problems regarding the training program or the breast physician trainee.

9.5 Standards for the supervision and support of breast physician training

The aim of breast physician training is to improve experience in the clinical practice of breast medicine while providing assessment in a clinical setting. Therefore, the setting must satisfy certain standards of support for the breast physician trainee.

- the trainee must be given the opportunity to develop knowledge and skill in breast medicine within a safe and supportive environment
- adequate numbers of experienced medical staff with appropriate qualifications in breast disease must be available to teach and supervise the trainee
- administrative staff should be available to support the trainee in organisational matters
- relevant high-quality educational resources should be available to support key areas in the

curriculum, for example, a digital imaging (mammography and ultrasound) library, pathology slides, medical library access

- release to attend relevant courses and conferences should be negotiable
- provision for flexibility of work hours, including part-time training, should be offered where possible
- an initial orientation to the training unit and to its staff, including introduction to data management systems, should be provided on commencement in the position and
- training in basic occupational health and safety issues should be provided and should include infection control policy.

9.6 Skills development

Training should be directed towards making trainees competent and safe in their work by gradually delegating tasks of increasing responsibility. Many of the required skills will be developed in the clinical setting. Progress will depend on patient workload, availability of trained teaching staff and differences in learning abilities.

It is expected that a trainee will have a sound academic understanding and knowledge of breast medicine after three years of full-time equivalent (FTE) training.

In respect of clinical expertise, skills may be developed by:

- accompanying an experienced clinician (senior breast physician or senior breast surgeon) when consulting patients with breast symptoms
- developing a sound technique in clinical examination of the breasts, initially in conjunction with an experienced mentor
- developing increasing knowledge of breast signs through observation with experienced clinicians
- attendance at workshops, conferences, and tutorials relevant to breast disease,

In respect of imaging, skills are developed by:

- observing radiographers perform mammography, including work-up views
- discussing the importance of positioning the patient and the role of specific mammographic views
- discussing and developing an understanding and an appreciation of image quality assessment and quality control procedures in producing high-quality images
- using an images library or training test sets
- viewing and discussing mammograms with a specialist breast radiologist
- developing breast imaging interpretative skills through didactic teaching, discussion of a patient's imaging with a radiologist or experienced breast physician
- independent mammogram and ultrasound interpretation practice followed by correlation of the trainee's opinion with the final case outcome ('dummy' or 'shadow' reading)
- study of the physics of ultrasound, the operation of ultrasound equipment, the techniques of image optimisation and the minimisation of artefacts
- observing and subsequently performing sonographic examination of the breast and axilla under the supervision of an experienced sonographer, radiologist or breast physician
- self-directed study of texts on breast imaging.
- formal courses in hands-on ultrasound

In respect of counselling, skills may be further developed by:

- 'sitting in' on patient consultations with experienced clinicians and counsellors when management of the presenting problem is to be discussed – this may often involve the breaking of bad news
- discussing effective communication strategies with clinical staff
- being supervised by an experienced clinician when discussing test results
- self-directed study on the psycho-social sequelae of a breast cancer diagnosis and/or of being at greater than population risk of breast cancer.

In respect of interventional procedures, skills are developed by:

- discussing the technique of needle biopsies and observing performance by experienced clinicians
- practising ultrasound guided fine needle and core biopsy on a suitable 'phantom' (eg chicken breast) before supervised performance on a patient
- developing increasing knowledge of the correlation of imaging, cytology and histology
- observing stereotactic biopsies prior to supervised performance
- viewing cytology and histology slides with a pathologist
- consolidating knowledge of infection control, incident-reporting and informed consent.

In respect of working in the multidisciplinary team, skills are developed by:

- regular involvement in case presentations in a multidisciplinary setting, such as case review meetings and MDT meetings
- opportunities to present cases at case review meetings and MDT meetings
- attendance at MDT meetings which should include a variety of specialists eg: surgeons, radiologists, pathologists, nuclear medicine, radiation medicine and medical oncology specialists, and relevant allied health.

10. The assessment of breast physician trainees

Performance appraisal

The two tools for assessment in the Breast Physician training program are **Workplace Based Assessment** (WBA) by the trainee's supervisor and **Self-Assessment**/self-reflection by the trainee. These are used to document progress and to identify gaps in knowledge and skill which require further learning.

Workplace Based Assessments (WBAs) are formative assessment tools used to provide structured feedback in the workplace. WBA helps trainees ensure they are covering the curriculum and allows trainees access to one-to-one teaching.

The feedback is intended to be immediate and useful and:

- indicate how the trainee is progressing
- help the trainee and supervisor plan for future learning

Feedback should take place as soon as possible after an assessment. It should be constructive and should include documentation of an action plan for future development. Personal reflection facilitates further learning.

WBAs are typically conducted during regular supervision time and are a way to focus feedback on performance in the workplace, for example, when the supervisor engages in a case-based discussion with a trainee or observes a trainee during a clinical consultation or a procedure. As the feedback provided with each WBA indicates how a trainee is progressing, they should be undertaken from early on in training.

There is no limit to the number of WBAs that can be done, but there are minimum numbers required.

The means of documenting trainee progress is a digital document - the ASBP Learning Portfolio, along with trainees' completed WBA forms.

Workplace Based Assessment Forms can be downloaded from the ASBP website and inserted into the Learning Portfolio as a record of learning. While assessment forms are required to be submitted to the ASBP twice a year as proof of progression of learning, trainees should regard WBA as a tool for learning rather than an examination of knowledge.

10.1 Workplace Based Assessment tools

There are 8 different Workplace Based Assessment tools. Not all are appropriate for all modules. It is up to the trainee and supervisor to select and arrange appropriate assessment for each module. Each module in the curriculum has been matched to a minimum of one suggested assessment method, however learning outcomes may be assessed by other assessment methods if the opportunity arises, and some modules may be self-assessed by the trainee.

Supervisors are encouraged to select relevant questions to explore the trainee's knowledge and how they apply that knowledge in that clinical setting. Skills outcomes are assessed by workplace-based assessment methods in the course of everyday clinical practice and, where appropriate, using simulation.

Observed Clinical Activity (OCA)

The observed clinical activity is designed to assess the clinical skills of trainees, direct their learning and help them attain greater autonomy. It provides an assessor with a structured format for directly observing and assessing a clinical interaction. An assessment can be used to cover the entire encounter or to focus on certain aspects of a case.

Examples where OCA may be used include:

- an initial clinical consultation (history taking and clinical examination)
- a clinical counselling session (discussing results, breaking bad news, outlining management options)
- discussion of findings and recommendations with patient
- explaining a procedure and obtaining informed consent
- a risk assessment / genetics consultation/ family history consultation
- clinical breast examination
- presentation at MDT meetings.

Direct Observation of Procedural Skills (DOPS)

Direct observation of procedural skills is an assessment designed to provide a structured feedback format for both knowledge and technical proficiency of a discrete procedural skill. These assessments can be completed on real patients or in a simulated setting.

Examples include:

Observation of the trainee performing:

- Ultrasound (US) guided cyst drainage
- US guided core biopsy
- US guided abscess drainage
- FNA of axillary node *including slide preparation
- core biopsy of axillary node*
- Stereotactic/tomo guided breast biopsy
- clinically guided punch biopsy
- draw and interpret a genetic pedigree
- US guided localisation
- Stereotactic guided localisation
- Breast ultrasound (use the specific DOPS (US) form)
- Axillary ultrasound

Case-based discussion with supervisor (CbD)

This assessment tool examines the skills of reasoning, decision making, interpretation and application of evidence in relation to cases that a trainee has managed. Case-based discussion focuses on a case that the trainee has done independently and is an opportunity to assess and give guidance on relevant clinical and imaging knowledge, understanding, documentation and reasoning and encourage the trainee to read further on the issues raised in the case.

Case-based discussion is based on the case notes, imaging, pathology results and other written correspondence.

It assesses ability to:

- correlate clinical, imaging and pathological findings
- apply knowledge to the patient context and clinical question
- document findings in an accurate and clinically useful way
- communicate findings to patients, relatives, referring doctors and other members of the multidisciplinary team.

A typical scenario might be the evaluation of a newly-referred patient to a diagnostic clinic or a family history clinic; a patient being assessed at a BreastScreen assessment clinic, or a patient being referred for surgical management of a screen-detected cancer.

For each module the trainee should choose cases that illustrate some aspect of the curriculum to discuss with the supervisor. The number of case-based discussions required for each module will vary, but you may complete as many as is useful.

Medical records review (MRR)

Medical record review can be done as part of a case-based discussion or as a brief stand-alone exercise. This assessment evaluates the written medical record (eg any case notes that form the medical record, procedure notes, letter to referrer, referral letters to surgeon or discharge summary as appropriate).

It can be done as a short evaluation.

Imaging Interpretation Exercise (IIE)

This is the evaluation of the trainee's imaging interpretation ability. It can be done at any time a radiology interpretation can be observed by an assessor. It does not have to be a list of cases or an extensive interaction in order to be useful for learning. A range of appropriate assessors should be sought (eg breast physicians or breast radiologists).

An IIE may be a verbal or written presentation of imaging findings. A range of different imaging modalities should be sampled over time, increasing in complexity, and trainees should receive immediate feedback.

Quality Improvement Project, Clinical Audit, Research Paper or Publication

All trainees are expected to complete one project during their training. It is expected such a project will take place over a 6-12 month period.

Trainees should show how they have instigated, collated and presented a piece of work, as well as reflect upon any changes in clinical management they will institute as a result of the project.

Assessment can be based on review of the documentation, or on a presentation of the findings, for example at a staff meeting.

Suitable projects should be discussed with supervisors and should be appropriate to the trainee's workplace.

Examples of appropriate projects might include:

- diagnostic accuracy of biopsy compared to the result of surgical excision,
- audit of accuracy of clip placement,
- correlation of lesion location with wire localisation,
- screen reading recall rates,
- third read cancers (based on 'dummy/shadow' reading
- publication in a peer reviewed journal.

Critical incident analysis (CIA)

Critical incident analysis is the systematic documentation and analysis of situations such as an unexpected outcome, adverse incident, near miss or simply a situation which could have gone better.
Critical incident analysis is a staged method of reflection on a particular event and a valuable learning tool. Workplaces should have a clearly documented CIA process for the Trainee to follow.
The general steps are: **Description, Analysis, Critical evaluation, Feedback.**

Imaging self-assessment program

BreastScreen **Re**ader **A**ssessment **St**rategy **(BREAST)** and **DetectedX** are Australian programs to improve the performance of radiologists and other clinicians who read mammograms.
They are designed for self-assessment and provide feedback in the form of scores of sensitivity, specificity and lesion sensitivity. Users are provided with image files that show correct decisions and any errors made. Training sessions are available from time to time, which are a valuable learning opportunity.
For trainees unable to access these or similar programs, documented blinded shadow reading of mammograms in the workplace and formal mammography courses may substitute.

10.2 Minimum expected numbers of Workplace Based Assessments

We anticipate that trainees may undertake more than the minimum number of WBAs, as these are the way the trainee will guarantee one-to-one teaching and ensure appropriate curriculum coverage.

<table>
<tr><th>Type of Assessment</th><th>Abbreviation</th><th>Year 1</th><th>Year 2</th><th>Year 3</th></tr>
<tr><td>Observed Clinical Activity</td><td>OCA</td><td>4</td><td>4</td><td>2</td></tr>
<tr><td>Direct observation of Procedural skills</td><td>DOPS</td><td>4</td><td>5</td><td>5</td></tr>
<tr><td>Case-based Discussion</td><td>CbD</td><td>6</td><td>6</td><td>6</td></tr>
<tr><td>Medical Record Review</td><td>MRR</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td>Imaging Interpretation Exercise</td><td>IIE</td><td>4</td><td>6</td><td>6</td></tr>
<tr><td>Quality Improvement / Audit /Research project</td><td>QI/Audit Project</td><td>0</td><td colspan="2">1</td></tr>
<tr><td>Critical Incident Analysis</td><td>CIA</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td>Imaging self-assessment</td><td>Imaging self-assessment</td><td>1</td><td>1</td><td>1</td></tr>
<tr><td colspan="2">Minimum number of mammograms reviewed totals 1500
- may include test sets
“independently read” means unassisted documented shadow reading or test sets where the result is later compared with the radiologist’s formal read.</td><td colspan="2">750 over the first 2 years.
• Read alongside radiologist in year 1
• 50% of mamms read in year 2 should be read independently</td><td>At least 750 independently read in year 3 (test sets and shadow reading)</td></tr>
<tr><td colspan="2">Minimum number of ultrasounds reviewed (at least 400 must be independently read by the trainee)</td><td colspan="3">800 over 3 years
• Read alongside radiologist in year 1
• At least 400 must be independently read</td></tr>
<tr><td colspan="2">Minimum number of procedures performed</td><td colspan="3">100 over three years (predominantly in the 2nd and 3rd years of training)</td></tr>
</table>

Notes:
Criteria to be qualified to report mammograms will vary by service, but typically might require a program of teaching sessions with a senior radiologist followed by documentation of 1000 shadow reads, demonstrated satisfactory recall and cancer detection rates and a BREAST (or similar) Test Set as final assessment of reading performance. To be accredited to read for BreastScreen Australia or New Zealand, the reader will need to perform a minimum of 2000 reads per year each year following, and continue to meet the NAS requirements for recall and cancer detection rates.

10.3 Correlation of Level of Trainee Competence with Level of Supervision

Appropriate supervision allows trainees to provide safe patient care as they progress towards independent practice. The following table provides an overarching tool to correlate **competence** with **expected level of supervision**.

	LEVEL OF COMPETENCE		
	Basic	Needs Improvement	Proficient
Description	Trainee does not always make an accurate clinical or imaging assessment or is unable to perform a procedure independently Trainee has missed important diagnostic, communication, imaging or manage-ment issues.	Sound clinical and imaging assessment but has missed nuances. Requires some further development of skills.	Is capable of managing patients or interpreting imaging independently. Shows sound clinical and radiological judgement and can recognise and highlight relevant and important issues. Patient care is at a level expected of a qualified breast physician.
Level of Independence	Trainee requires support and guidance most of the time.	Trainee is able to make decisions independently most of the time. Some management or follow-up decisions are still required to be checked with a supervisor before implementation. Knows limitations.	Trainee is able to make decisions independently. Seeks guidance if required.
Level of Supervision	Supervisor is always available onsite and is required most of the time.	Able to work independently most of the time. Supervisor is onsite and available when required.	Able to work independently. Supervisor is available by phone/email to provide advice.

11. ASBP Learning Portfolio

The Learning Portfolio requires trainees to consider their total experiences, select the most important and then to record and analyse the experience. It is more than a logbook because it requires analysis, not just a catalogue of dates and experiences.

As well as being a summary of training, the learning portfolio assists the trainee and supervisor in planning future learning. The portfolio should act as a tool for reflection and documentation of relevant literature. Relevant articles should be referenced within portfolio cases and may relate to clinical or imaging findings, systematic reviews or areas of current trials.

The portfolio should help track progress as modules are completed and assessment achieved. It should help establish learning plans and develop reflective learning. It will remind trainees and supervisors of the aims of training and promote self-learning.

Reviewing the learning portfolio is important and needs to be done continuously. At regular intervals the trainee and supervisor should put aside dedicated time to review the learning portfolio and plan future learning activities.

Reviewing the portfolio will:

- provide a starting point for case-based discussions
- allow for feedback so trainees can learn from mistakes and build on achievements
- provide motivation
- enable trainees to remedy any deficiency found
- enable trainees and supervisors to track progress of learning and audit activity.

  Portfolio data should be de-identified, although dates and client ID or reference numbers may be used.

12. Completion of Training

12.1 Letter of Satisfactory Completion of Training

The primary supervisor is responsible for checking that the trainee has completed the education program curriculum before the trainee applies to present at the exit presentation/interview. Candidates for the exit presentation must provide a Letter of Satisfactory Completion of Training from their supervisor.

Once a breast physician trainee and their supervisor are satisfied that the criteria for completing all training have been met, an email should be sent to the ASBP Chair of Education with the letter of satisfactory completion of training attached.

The candidate will be contacted to arrange a date for the exit presentation/ interview.

12.2 Exit Presentation and Interview

The trainee will be required to present their clinical or research project (or by arrangement, another pre-prepared presentation). It is an opportunity to discuss with the interview panel career interests and opportunities for career development - with the objective of setting professional goals and developing an individual learning plan (this is a requirement for Australian CPD programs).
The panel will also take this opportunity to seek feedback to assist future trainees and improve the training program.

The panel for the exit interview will consist of experienced Fellows of the ASBP, Radiologists and Surgeons who work predominantly in Breast Medicine. The Exit Presentation may be

conducted in person or online, and depending on the number of candidates, may be held in conference format with each trainee presenting to the whole cohort followed by a group discussion.

13. Learning Modules

The curriculum is set out in learning modules, which provide a general summary of the knowledge and competencies breast physicians should acquire during their training. The lists are not exhaustive.

This curriculum is designed to be used alongside the ASBP Learning Portfolio which is where trainees should document their progress in each module.

A list of suggested resources is available to trainees on the ASBP website (which is more easily updated than this document).

The ASBP recognises that not all breast physicians will train or ultimately work in centres where their direct clinical and procedural responsibilities will include all these modules. However, Trainees for Fellowship level must acquire core knowledge and competencies in ***all*** *learning modules. Trainees for Advanced Certificate level must complete Modules* A3, A4, A5, A8 and A9 *and then may choose 4 other modules. An asterisk after the module number indicates that the module is compulsory for Advanced Certificate level qualification.*

The Learning Modules are divided into two Sections. As there is considerable overlap between the sections, we recommend concurrent progress across both sections rather than a sequential approach to knowledge and skills acquisition:

Part A – Clinical diagnosis and management in breast medicine
Part B – Breast Imaging theory and Practical skills acquisition

Part A: Clinical diagnosis and management in Breast Medicine

A1. Normal structure and function:

Knowledge and understanding of:

- normal anatomy and tissue types in the breast and axilla
- normal breast development
- effects of normal physiological changes on breast structure and function in males and females throughout the life-span, including:
  - infancy and childhood
  - pre-adolescence and adolescence
  - pregnancy and lactation (including the physiology of lactation; the oral anatomy of the infant and basic physiology of infant suckling)
  - menopause and breast involution
  - older age in men
- effects of endocrine functions on breast tissue.

Methods:

- Self-directed learning from standard texts and review articles
- Summary and peer small group discussion or presentation
- Discussions with breast surgeons, pathologists and radiologists
- Discussion of specific cases which demonstrate typical or variant anatomy

Assessment:

- CbD
- Learning Portfolio

A2. Principles of epidemiology and population health strategies

Leading to capabilities for practice:

- understand the concept of health screening and apply screening principles appropriately in clinical practice.

Knowledge and understanding of:

- population-based risk factors for breast cancer
- population-based primary prevention of breast cancer (lifestyle strategies)
- overall epidemiological principles underlying the screening of asymptomatic populations for sub-clinical disease
- principles of population-based mammographic screening programs
- incidence of breast cancer (and variations with age, population demographics, location, socioeconomic group, ethnicity etc)
- rationale of BreastScreen Australia / BreastScreen Aotearoa
- the limitations of imaging within a national screening program
- the BreastScreen key performance indicators necessary to achieve the expected reduction in mortality from breast cancer in Australia and New Zealand (Target participation rates, rescreening rates, recall rates and breast cancer detection rates)
- effectiveness of different screening strategies (self-detection, clinical examination, mammographic screening, and unproven screening modalities such as thermography etc)
- effective screening of different subgroups and the use of stratified screening: young women, those with dense breasts, those using menopausal hormone therapy (MHT) and women at greater than population risk
- definitions and concepts related to interval breast cancers
- outcomes from screening programs including benefits and disadvantages:
  -implications and benefits of pre-clinical cancer detection
  -implications of earlier detection of invasive disease on treatment outcomes, loco-regional recurrence and distant metastases
  -implications of earlier detection on disease-free survival rates and mortality
  -effects of false positive recall after a screening mammogram
  -implications of false negative screening results.

Methods:

- Summary / peer small group discussion
- Review of the Australian BreastScreen National Accreditation Standards (NAS); or the New Zealand BreastScreen Aotearoa National Policy and Quality Standards (NPQS)

Assessment:

- CbD
- Learning portfolio
- Detailed discussion of the NAS or NPQS (for trainees within BreastScreen)
- Participation in an interval cancer review

A3*. Clinical skills

Leading to capabilities for practice:

- recognise the clinical and imaging presentations and use appropriate diagnostic pathways for a range of benign, indeterminate and malignant breast conditions
- manage clinical and imaging workload according to clinical need, urgency and professional expertise
- work within and effectively contribute to the multidisciplinary team (MDT) meeting.

Learning Outcomes:

- anatomy, physiology and pathology of the breast in benign, indeterminate and malignant breast conditions
- components of a breast history and its relevance to the investigation of breast symptoms and signs
- proficiency in clinical history taking
- proficiency in clinical examination of the breast
- reproductive endocrinology and its application to the aetiology and management of breast changes
- understand the role of clinical examination in the 'triple assessment' approach to diagnosis of symptomatic patients
- develop diagnostic approaches, including appropriate history taking and clinical examination, for the following clinical presentations:
    - breast lump
    - breast swelling
    - axillary lump
    - breast pain
    - breast erythema
    - skin changes
    - nipple itch
    - nipple changes (inversion, discharge, scaly nipple)
    - implant related issues (swelling, discomfort, shape change, contracture)
    - gynaecomastia in men
- evaluate clinical-radiological-pathological concordance
- recognise the range of benign breast conditions and developmental abnormalities; including their typical presentation, differing appearance as a woman ages, imaging findings, investigation and management
- know the natural history of conditions associated with an increased risk of breast cancer
- actively participate in multidisciplinary teamwork, communicate effectively and respect the roles of all members of the multidisciplinary team.

Assessment

- OCA: appropriate for evaluating clinical history taking, clinical breast examination, clinical-radiological-pathological concordance
- CbD: appropriate for evaluating diagnostic approaches to different presentations and clinical-radiological-pathological concordance skills
- MRR
- Observation of trainee in the workplace and at MDT meetings

A4*. Communication skills and counselling

Leading to capabilities for practice:

- use effective communication strategies with patients and colleagues (both verbal and written)
- accurately convey and explain relevant information
- collaborate and resolve conflict
- participate in effective coaching, mentoring and feedback conversations.

Learning Outcomes:

- Establish positive relationships with patients and their families that are characterised by trust and the involvement of patients in their care by:
  - Showing empathy
  - Showing vulnerability
  - Building rapport
- demonstrate effective communication strategies with patients and colleagues (verbal and written)
- adapt communication to individual patient contexts, displaying sensitivity and communicating without prejudice or judgment to cultural, linguistic, gender, and sexual identity diversity
- use appropriate language to explain imaging examinations, risks and findings
- use appropriate language to explain clinical and radiological findings
- facilitate informed choice
- use appropriate language to obtain informed consent for clinical examinations, imaging investigations and/or procedures
- show sensitivity to issues of equality and diversity
- use appropriate approaches to breaking bad news, with understanding, respect and compassion
- communicate in a way that encourages confidence, allays anxiety and facilitates co-operation
- use counselling skills to reduce anxiety in patients presenting with a breast symptom
- recognise the psychosocial sequelae of a breast cancer diagnosis and develop methods to assist patients
- demonstrate knowledge of the supportive resources and support agencies available to patients
- provide information while actively involving the patient in decision-making
- address cultural diversity, diverse knowledge and abilities
- recognise and address miscommunication and barriers to communication
- develop techniques to communicate with patients and relatives from culturally and linguistically diverse backgrounds
- use resources to facilitate communication where there are cultural or language barriers, for example, use an interpreter
- understand the psychosocial impacts of repeated breast imaging/investigation and high risk breast surveillance regimens
- understand privacy laws.

Methods:

- Communications skills course
- Role playing difficult scenarios with colleagues

Assessment

- Learning portfolio of clinical cases
- OCA: appropriate for evaluating clinical consultations, observed use of interpreter, breaking bad news etc
- CbD - Case-based discussions
- Critical Incident Analysis

A5*. Benign conditions of the breast

Leading to capabilities for practice:

- recognise clinical and imaging features of benign breast conditions and be able to manage these conditions in clinical practice

Detailed knowledge and understanding of:

- the following benign breast conditions and developmental abnormalities including:
  - typical presentation, imaging findings, investigation and management, differing clinical and imaging appearance at different ages of patient presentation
- the effects of endogenous and exogenous hormones on benign breast conditions
- appropriate investigations, interventional techniques and management of each of the conditions below
- indications for surgical management of each of the conditions below
- basic knowledge of surgical procedures used to treat benign breast diseases

Benign Conditions

a) congenital abnormalities and aberrations of normal development
   - Poland Syndrome
   - ANDI (aberrations of normal development and involution)
   - cyst, galactocele
   - intramammary lymph node (normal or reactive)
   - accessory breast tissue; accessory nipple
   - hamartoma (fibroadenolipoma)

b) proliferative breast conditions
   - papilloma / papillomatosis
   - sclerosing adenosis
   - complex sclerosing lesion/radial scar
   - fibroepithelial lesions including: fibroadenoma / multiple fibroadenoma /
   - giant fibroadenoma
   - tubular adenoma
   - nipple adenoma
   - benign phyllodes tumor
   - PASH

c) reactive, inflammatory and infective conditions
   - duct ectasia
   - periductal mastitis (Zuska's disease)
   - haematoma
   - fat necrosis
   - Mondor's syndrome
   - Mastitis
   - breast abscess
   - granulomatous mastitis

d) gynaecomastia
   - physiological
   - related to systemic disease
   - drug/medication induced

e) nipple changes
   - montgomery tubercle
   - nipple adenoma
   - eczema, contact dermatitis
   - physiological discharge

f) skin conditions / lesions seen on the skin of the breast or nipple
   - eczema, contact dermatitis
   - intertrigo, herpes zoster,
   - seborrheic keratosis, sebaceous cyst, epidermal inclusion cyst, naevi,
   - accessory nipple, skin tag, keloid scar, neurofibroma, Dercum's disease
   - skin necrosis

g) mastalgia

h) traumatic conditions
   - fat necrosis, oil cyst, haematoma, seroma
   - intramammary free silicone or paraffin injection

Assessment:
- CbD
- OCA
- Learning portfolio of cases

A6. Principles of pathology interpretation and correlation

Leading to capabilities for practice:

- implement the triple test (the combination of clinical examination, breast imaging and nonsurgical biopsy) for the assessment of symptomatic patients
- correlate clinical, imaging and pathological findings accurately to make a diagnosis
- formulate a plan of follow up when correlation of clinical, imaging and pathological findings is *not* achieved
- work within and effectively contribute to the MDT

Knowledge and understanding of:

- the triple test / the triple assessment

The 'triple assessment' is an extension of the triple test concept. In the triple test each component score is considered in isolation.

The triple test is positive if any component is positive but is negative only if **all** the components are negative.

In the triple assessment the findings from each modality are correlated in contest, within the multidisciplinary team setting.

- histopathological features of commonly occurring benign and atypical breast lesions
- histopathological features of the major subtypes of breast cancer
- the relationship between the *imaging features* and the *pathological features* of commonly occurring benign, atypical and malignant breast lesions
- the significance of clinical-imaging-pathological correlation
- the significance of molecular biology tumor markers.

Skills acquisition:

- basic skills in recognising the essential histopathological features of normal, benign and malignant breast tissue
- advanced skills in interpreting pathology reports in order to correlate clinical and imaging findings with pre- and post-surgery pathology reports
- ability to identify discrepancies or anomalies between the histopathology result/report and the clinical and imaging findings
- preparation of cases for presentation at MDT review meetings
- presentation of cases at MDT review meetings
- effective contribution to MDT discussions.

Assessment

- CbD
- OCA: appropriate for presentation of cases at MDT meetings, observation of explaining results to patients
- Learning portfolio of case studies including description of pathological features resulting in diagnosis
- Log attendance at regular multidisciplinary case reviews with surgeons, radiologists, pathologists and oncologists.

A7. Lactation

Leading to capabilities for practice:

- appropriately image a lactating woman presenting with a breast symptom
- give screening advice to lactating women who are at higher than population risk of breast cancer
- diagnose and manage disorders of the lactating breast.

Knowledge and understanding of:

- physiology and endocrinology of lactation, including how lactogenesis commences and is maintained
- common challenges faced during breastfeeding and basic knowledge of the strategies used to manage these
- psychosocial and mental health issues that may affect lactation
- appropriate lactation referral pathways, including community resources
- appropriate breast imaging modalities for the lactating breast and the risks and benefits of these imaging modalities in different circumstances (ie: benign versus malignant conditions)
- diagnosis and management of disorders of the lactating breast (nipple damage, blocked ducts, mastalgia, breast engorgement, mastitis, lactational abscess)
- management of lactation when the mother has a medical problem that affects breastfeeding (eg, infectious diseases, drug and alcohol use, breast cancer)
- how surgical breast augmentation or reduction may affect breastfeeding
- the interaction of medications with breastmilk production
- those medications (particularly antibiotics) that are contraindicated while breastfeeding
- the appropriate use of local anaesthetic for interventional procedures on the lactating breast
- indications and contraindications for percutaneous diagnostic and therapeutic procedures on the lactating breast, including needle gauge, infection risk and fistula risk
- how to minimise the risks of an interventional procedure on the lactating breast
- how to time the recommencement of screening for the breastfeeding woman, and which modalities are appropriate
- surveillance advice for breastfeeding women with higher than population risk of breast cancer.

Assessment

- Learning portfolio of clinical cases eg: abscess management, mastitis
- OCA: appropriate for evaluating clinical consultation and examination
- DOPS: appropriate for evaluating biopsy of the lactating breast, abscess drainage
- CbD - Case-based discussions
- IIE: - reviewing images (MG and US) of the lactating breast

A8*. Malignant breast disease

Leading to capabilities for practice:

- correlate clinical, imaging and pathological information to diagnose breast cancer
- develop and promote a holistic and multidisciplinary approaches to the care of a patient with breast cancer
- counsel patients and their support person about the breast cancer management pathway, facilitating informed choice
- recognise and manage short, long term and delayed effects of surgical and adjuvant treatments for breast cancer
- explain to patients the use of prognostic and biological factors that influence oncological treatments.

Knowledge and understanding of:

- the classification of breast cancer by histological subtype
- the differences in epidemiology, presentation, management and prognosis of different types of breast cancer
- significance of prognostic indicators
- the clinical presentation, imaging features, cytological and histological features and management principles of:
  - In situ breast cancer
  - Primary early breast cancer
  - Primary locally advanced breast cancer
  - Locally recurrent breast cancer
  - Metastatic breast cancer
  - BIA-ALCL (Breast Implant Associated Anaplastic Large Cell Lymphoma)
- management principles of in situ and invasive breast cancer including:
  - surgery
  - radiotherapy
  - adjuvant and neo-adjuvant chemotherapy
  - hormonal and endocrine therapy
  - immunotherapy
  - post-treatment symptomatology
  - post-treatment surveillance
  - lifestyle issues including exercise, return to work etc
  - fertility and hormonal issues, including sexuality and contraception.
- principles of surgical management of breast cancer, including:
  - mastectomy versus breast conserving surgery
  - oncoplastic aims and techniques
  - management of locally advanced and inflammatory breast cancer
  - loco-regional recurrence
  - nodal staging procedures, including sentinel node biopsy
  - reconstruction techniques

- Significance of tumor classification systems, including tumor biology, biomarkers and the TNM system
- principles and significance of genomic testing/tumour profiling tests (eg MammaPrint, OncotypeDx, Prosigna)
- adjuvant radiotherapy according to current guidelines and emerging techniques
- adjuvant chemotherapy according to current guidelines
- neo-adjuvant chemotherapy
- endocrine therapy
- long-term monitoring of treatment side-effects including cardiotoxicity, lymphoedema and effects on bone metabolism
- appropriate choice of investigations used to monitor side-effects of adjuvant and neo-adjuvant therapy (eg bone density studies)
- management of psychosocial issues, including understanding of implications of treatment on sexuality and fertility, fear of recurrence and effects of long term surveillance
- breast cancer in particular groups, including young or pregnant women
- breast cancer in men: presentation, imaging, investigation and management.

Assessment

- Learning portfolio of cases and journal readings
- CbD
- MRR
- OCA - Case presentations at MDT meetings

A9* Assessment and management of people at increased risk of breast cancer

Leading to capabilities for Practice:

- understand breast cancer risk stratification and the significance of moderate and high breast cancer risk
- recognise factors that may contribute to an increased risk of breast cancer, including genetic influences, ethnicity, prior diagnosis of significant breast pathology, mammographic breast density, prior chest/mantle radiotherapy, use of hormonal medication, reproductive factors and lifestyle factors
- provide a tailored assessment to an individual person of their breast cancer risk, using evidence-based guidelines, risk assessment tools +/- referral to a specialist hereditary cancer facility or clinical geneticist.

Knowledge and Skills:

- take an extended family history of related cancers and those that contribute to breast cancer risk
- know the significance of family history and ethnicity when considering testing for known genetic mutations associated with an increased risk of breast cancer, including:
    - BRCA1 and BRCA2 pathogenic variants and
    - p53, ATM, PALB2, CHEK2, and other less common identified gene mutations
- understand the role, indications, reliability and potential harms of genetic testing
- know the common genetic tests used in a specialist setting, and those commercially available to the public
- know how to access and use evidence-based guidelines such as evi-Q
- understand the indications for panel testing
- understand implications of variants and mutations of unknown significance
- develop fundamental skills in interpreting genetics reports
- understand privacy protocols and the insurance implications of risk quantification
- understand available methods of assessing individual risk, eg iPrevent, Tyrer-Cusick, CanRisk, BOADICEA
- understand roles and specific limitations of available assessment modalities
- develop familiarity with on-line risk calculators
- understand the relevance of breast density to breast cancer risk
- understand the risk relevance of lesions with pre-malignant potential
- understand the roles and implications of commonly measured biomarkers, markers of proliferation and epithelial growth factors
- know the screening and risk-reducing options available to women at increased risk of breast cancer
- know the indications for - and be able to explain to a patient – the currently available risk reduction strategies for breast cancer, including:
    - risk-reducing medication
    - risk-reducing breast surgery
    - salpingo-oophorectomy
    - lifestyle factors, including motivational counselling for alcohol reduction, diet and exercise

- be able to institute an appropriate surveillance strategy, counselling and tertiary referral for women at higher than population risk of breast cancer
- know the indications and contraindications for use of menopausal hormone therapy, SERMs, hormonal contraceptives and other exogenous hormones in women at population risk and those at increased risk for breast cancer (this includes NuvaRing, Mirena and OCP)
- have a working knowledge of current clinical trials for breast cancer prevention
- demonstrate counselling skills specific to patients at increased risk with particular attention to clarity of information, empathy and shared decision-making consultation skills.

Assessment

- CbD
- OCA – appropriate for observation of risk assessment consultation and risk counselling
- Learning portfolio/logbook of family history cases or cases of patients seen in a high risk setting - detailing referral pathways, reference to national guidelines, risk analysis software
- Participation in multidisciplinary case reviews

A10. Breast Implants

Leading to capabilities for Practice:

- assessment and principles of management of conditions of the augmented or reconstructed breast
- discuss the risks and benefits of breast implants for a range of clinical scenarios
- appropriate choice of imaging technique for the augmented or reconstructed breast

Knowledge and understanding of:

- the indications for breast implants
- types and sizes of breast implant devices
- placement positions of breast implants and the situations in which different positions are favoured
- risks and surgical complications associated with implants
- the differences between surgical methods and implant devices chosen for post cancer reconstruction and cosmetic augmentation
- clinical examination of the augmented or reconstructed breast
- recognition and nomenclature for describing common implant associated conditions on examination eg Baker classification of capsular contracture, waterfall deformity
- appropriate imaging choices for the augmented or reconstructed breast
- comparative uses, indications, advantages and disadvantages of breast mammography *vs* breast MRI *vs* breast ultrasound for the reconstructed or augmented breast
- the presentation, investigation, imaging features and principles of management of breast implant associated complications including:
    - peri-implant collection (seroma/haematoma)
    - infection, including deep wound infection
    - implant malposition/rotation
    - implant rupture
    - capsular contracture
    - BIA-ALCL (Breast Implant Associated Anaplastic Large Cell Lymphoma)

Assessment

- Learning portfolio of clinical cases eg: breast implant associated complications
- OCA: appropriate for evaluating clinical consultation and examination
- DOPS: appropriate for evaluating biopsy of the augmented or reconstructed breast
- CbD: Case-based discussions
- IIE: reviewing images (MG, US, MRI) of the augmented or reconstructed breast

PART B: Breast Imaging theory and Practical skills acquisition

B1. Principles of mammo/tomographic (2D/3D) image acquisition and radiation safety

Leading to capabilities for practice:

- appropriately select and order breast imaging to the patient context and the clinical question

Knowledge and understanding of:

Technical Factors -

- the principles of digital mammography (DM), including tomosynthesis (3D mammography) and contrast enhanced mammography (CEM)
- the principles required to achieve high resolution, high contrast mammographic images
- overview of quality control and performance tests in mammography/tomography (2D/3D)
- quality assurance activities relating to image acquisition (identification and labelling)
- principles of radiation safety (including the biological effects of radiation, factors affecting radiation dose and image quality, radiation protection of patients and staff, relative radiation doses of mammography, tomography and CEM (and combinations of these) and recommended dose reduction techniques)
- regulatory requirements with respect to radiation and licensing of equipment and operators of X-ray equipment and handling of radioactive substances and contrast agents
- image software and hardware issues (including image file sizes, storage and backup of images, network and bandwidth issues required for optimal and efficient display, issues related to transferring large digital files)
- principles and pitfalls of automated digital density assessment (eg Volpara, Quantra).

Clinical Factors -

- patient positioning techniques and specialised views (how they are performed and when to use them)
- imaging the augmented breast: positioning, techniques and pitfalls
- imaging of the treated breast (after mastectomy, local resection, radiotherapy, and/or oncoplastic techniques)
- pre-operative localisation techniques
- post-operative specimen radiography techniques.

Methods:

- observing radiographers perform mammography, including work-up views
- discussing the importance of positioning the patient and the role of specific supplementary mammographic views
- discussing and developing an understanding of, and an appreciation of the importance of, image quality assessment and control procedures in producing high-quality images

- using an image library to assess image quality, if available
- viewing and discussing mammograms with a senior breast physician or radiologist
- self-directed study of texts on breast imaging.

Assessment:

- Observations to be recorded in the Learning portfolio: (time spent with radiographers, special views that have been observed, analysis of reasons for these)
- CbD - with radiographers and/or radiologists illustrating the clinical factors above
- Learning portfolio of representative cases illustrating the clinical factors above

B2. Principles of CEM (Contrast Enhanced Mammography)

Leading to capabilities for practice:

- appropriately select and order breast imaging to the patient context and the clinical question

Knowledge and understanding of:

- principles of contrast-enhanced mammography and how it is performed
- principles of radiation safety when acquiring CEM images, including effective radiation dose minimisation
- additional clinical safety principles when using contrast
- potential benefits of CEM over conventional mammography/tomography
- contraindications to performing CEM and potential risks of performing CEM
- principles of managing a contrast reaction and detailed knowledge of the specific protocols within trainee's own work location
- correlation of CEM results with other breast imaging modalities
- planning tailored follow up of CEM results in consultation with reporting radiologist (including biopsy planning).

Methods:

- Observation of performance of CEM
- Discussion with radiologist and breast physician mentor of the processes required to achieve high quality images
- Review of texts, journal articles and image library in self-directed learning
- Review workplace contrast reaction management protocols.

Assessment:

- CbD
- Evidence of learning of management of contrast reactions in form of a written management plan or CbD

B3. Interpretation of Mammograms, Tomosynthesis & Contrast Enhanced Mammography (CEM)

Leading to capabilities for practice:

- appropriately select breast imaging to patient context and the clinical question
- evaluate and optimise image quality
- interpret mammograms accurately
- correlate clinical, pathological and imaging findings accurately.

Knowledge and understanding of:

- a systematic approach to the interpretation of breast imaging, including tomography and Contrast Enhanced Mammography (CEM)
- evaluation of image quality
- breast density classification and assessment
- hands-on interpretation of mammographic/tomographic/ CEM studies
- BIRADS classification of mammographic findings
- appearances of common benign findings on mammography/tomography/CEM
- mammographic findings typical or suggestive of malignancy
- interpretation of augmented breasts, breasts with surgical scars or with post-radiotherapy changes
- the differences between screening and diagnostic mammography studies
- appropriate use of additional 2D or 3D images in the work-up of an abnormality
- appropriate further investigation of abnormal mammographic/tomographic findings, including indications for additional views and/or supplemental imaging such as ultrasound, CEM or MRI.

Assessment:

- IIE - imaging interpretation exercises with immediate feedback
- CbD - case-based discussions with radiographers, radiologists and breast physicians
- online image bank /self-assessment of image interpretation (eg dummy reading, test sets)
- formal mammography / tomography interpretation courses
- Breastscreen trainee/shadow reads (available to BreastScreen trainees only)
- evidence of screening mammography outcomes, including cancer detection rates, missed cancers from BreastScreen data (trainees within BreastScreen only)
- Logbook of cases including analysis of single reader detected or 'missed' cancers
- Submission of the results of at least one BREAST test set (or equivalent) annually is mandatory. The set must provide, at minimum, measures of sensitivity and specificity and ideally also lesion sensitivity. *In the first year of training, you should consider this as a learning exercise only. Meeting the reading standards of a breast radiologist is not the goal.*
- See table 10.2 for minimum numbers of mammograms to be reviewed during training

B4. Principles of breast ultrasound acquisition

Leading to capabilities for practice:

- appropriately select and order breast imaging to the patient context and the clinical question
- differentiate adequate quality from poor quality (non-diagnostic) images in order to maximise diagnostic certainty
- evaluate and optimise image quality

Completion of an ultrasound course which includes a physics component is strongly advised.

Knowledge and understanding of:

- breast anatomy as it relates to ultrasound appearances
- basic physics of breast ultrasound
- biological effects of the interaction of ultrasound with breast tissue
- limitations of breast ultrasound, including automated whole breast ultrasound
- principles of ultrasound-guided interventional procedures
- image optimisation including harmonics, beam steering and transducer choice
- principles of doppler imaging
- artefacts and their diagnostic application
- identification and image labelling requirements.

Assessment

- Learning portfolio of cases
- case-based discussions around:
    - theory of ultrasound
    - operation of ultrasound equipment
    - techniques of image optimisation
    - minimisation of artefacts
    - potential for missed diagnoses due to poor technique or inadequate images

B5. Breast ultrasound interpretation

Leading to capabilities for practice:

- know the indications for breast ultrasound and order breast ultrasound appropriately
- interpret breast ultrasound
- evaluate and optimise image quality
- perform hands-on breast and axillary ultrasound.

Knowledge and understanding of:

- interpretation of breast and axillary ultrasound still images
- knowledge of the ultrasound appearance of physiological variations of normal breast tissue including pregnancy, lactation and male breast tissue
- knowledge of typical characteristics of benign and malignant lesions on breast ultrasound
- correlation of the ultrasound with the other components of the triple test
- post-operative ultrasound appearances (post-mastectomy, after local resection, post-radiotherapy)
- anatomy of the augmented breast on ultrasound
- features of benign and malignant lesions in the augmented breast as well as common implant complications such as infection, collection, rupture and capsular changes

Practical ultrasound skills:

- image optimisation in real-time scanning including transducer choice, harmonics and beam steering
- perform breast and axillary ultrasound in real-time
- real-time ultrasound of the augmented breast and the post-surgical breast.

Method:

- observing sonographic examination of the breast performed by an experienced sonographer, radiologist or breast physician
- completion of a hands-on ultrasound scanning course
- supervised ultrasound practice in the workplace
- learning portfolio of cases observed and performed.

Assessment

- IIE - ultrasound (still image) interpretation exercises with immediate feedback
- DOPS - supervisor-observed practice of image optimisation and minimisation of artefacts
- DOPS - supervisor-observed performance of ultrasound cases (dependent on stage of training) showing increasing competence, complexity and independence (with feedback)
- The specific **ASBP 'Hands-on Ultrasound' DOPS assessment form** is recommended for assessment of ultrasound performance.

B6. Interventional Procedures

Leading to capabilities for practice:

- appropriately order diagnostic image guided procedures
- appropriately perform diagnostic clinical and image guided procedures

Learning Outcomes:

- theoretical and practical understanding of image-guided interventional procedures, including indications and protocols, risks and benefits, their degree of specificity and sensitivity, and their respective uses:
    - fine needle aspiration biopsy
    - core biopsy
    - stereotactic / tomo guided biopsy
    - vacuum-assisted techniques (VAB, VAE)
    - pre-operative localisation techniques
    - specimen ultrasound
    - specimen Xray.
- possible risks and complications associated with these procedures, in particular those relating to biopsy of the augmented or reconstructed breast
- skills in performance of these procedures (via practising on a suitable phantom before supervised performance at an appropriate stage of training)
- knowledge of infection control, incident reporting and informed consent.

Practical skills:

- perform targeted breast and axillary ultrasound for the purpose of lesion localization before needle biopsy
- perform US guided drainage of cysts and abscesses
- perform US guided breast core biopsy
- perform US guided clip placement
- perform US guided FNA of axillary nodes
- perform stereotactic or tomosynthesis guided breast biopsy
- perform clinically guided skin punch biopsy
- perform breast abscess mini-incision and washout
- perform needle biopsy in the augmented and /or reconstructed breast
- perform* ultrasound-guided localization of lesions (if this procedure is not offered in the trainee's own workplace, then an arrangement must be made for the trainee to observe several ultrasound guided localisation procedures being performed off-site).
- perform* mammographically guided localisation of lesions (if this procedure is not offered in the trainee's own workplace, then an arrangement must be made for the trainee to observe several mammographically guided localisation procedures being performed off-site).

**localisation procedural experience is not a compulsory requirement for Fellowship. All other procedures are a compulsory requirement to achieve Fellowship.*

Assessment

- Learning portfolio / logbook of procedures
- DOPS: performance of procedures under direct supervision on phantom/ patient, with immediate feedback
- DOPS: structured observation of procedures: consent, preparation, aseptic technique and handling of sharps.
- CbD
- image-guided intervention course/s
- Learning portfolio: logbook of interventional procedures showing increasing competency, complexity and independence
- CIA.

B7. Principles of MRI and MRI safety

Leading to capabilities for practice:

- interpret MRI *reports*
- use MRI *reports* to correlate prior clinical, imaging and biopsy findings
- appropriately select and arrange breast MRI for the patient context and the clinical question.

Learning Outcomes:

- principles of breast MRI including:
    - technical requirements
    - positioning
    - safety measures required for patients
    - contraindications for use of MRI.
- understanding MR findings:
    - BPE (Background Parenchymal Enhancement)
    - masses
    - foci
    - mass enhancement
    - non-mass enhancement (NME).
- T1, T2 and Diffusion weighted imaging
- understanding of Abbreviated and Ultra-fast breast MRI
- sensitivity and specificity of breast MRI compared to other breast imaging modalities
- the place of breast MRI in high risk screening
- specific safety implications of breast MRI procedures and the use of contrast media
- indications for recommending breast MRI
- Medicare criteria for breast MRI to be rebatable
- timing of screening breast MRI in pre-menopausal women
- use of MRI for evaluation of women with breast implants
- causes of false-positive and false-negative rates of MRI
- limitations of breast MRI
- indications for and techniques involved in MRI biopsy.

Methods:

- Self-directed study of texts and journal articles on MRI
- Review of images with radiologist
- Case discussions with radiologist
- Observation of breast MRI guided procedures.

Assessment

- CbD
- Learning Portfolio – analysis of MDT cases incorporating MRI investigation

B8. Other diagnostic modalities

Leading to capabilities for practice:

- discuss with patients the evidence-based methods of breast cancer screening currently in use.

Learning Outcomes:

Demonstrate:

- awareness of imaging and other modalities being utilised and undergoing research for breast cancer screening and monitoring of treatment
- awareness of molecular breast imaging (MBI), breast specific gamma imaging (BSGI), breast positron emission mammography (PEM), cone beam CT, artificial intelligence and deep machine learning applied to existing screening and future modalities.
- awareness of other research areas including microwave imaging, optical spectroscopy, liquid biopsy for biomarkers
- awareness of un-validated methods of breast cancer detection eg thermography .

Methods:

- Self-directed study of journal articles on future modality research
- Journal club presentation
- Observation of or role-play/discussion of consultation with patient discussing un-validated imaging methods and the merits of currently evidenced imaging techniques.
- Creation of patient education material.

Assessment

- CbD
- OCA: Consultation role-play

13. Quality Improvement Project, Clinical Audit, Research Paper or Publication

Mandatory research or clinical project

Trainees are required to develop, conduct and present a research or clinical project during their course of their training. It is expected such a project will take place over a 6-12 month period.
The research or clinical project will be conducted under the guidance of the supervisor. Input from other clinical or research experts is encouraged. Group projects with other breast physician trainees are acceptable.

The topic for the project should be determined by the trainee and their supervisor. It should be developed around a specific clinical question related to breast medicine and should be appropriate to the trainee's workplace.

Trainees should show how they have instigated, collated and presented a piece of work, as well as reflect upon any changes in clinical management they propose as a result of the project.

The research or clinical project will normally be undertaken in addition to clinical work during the period of training in breast medicine. A period of full-time research is not a requirement. The indicative time commitment for the project is 40 hours, including time for planning the project and writing a presentation or report.

The training supervisor should make time available for the trainee to undertake the project.

Evidence of completion and presentation of the project is essential for the awarding of the Fellowship.

The project must be presented in an appropriate forum, which may include:

- Presentation of a paper at an ASBP trainee workshop or a multidisciplinary forum approved by the ASBP Board
- Presentation of a paper or poster at a scientific meeting for which abstracts are subject to a review and selection process
- Publication in a peer-reviewed scientific journal
- Presentation of a dissertation or thesis as part of a higher degree undertaken during the period of training.

This report or project will also be presented at the Trainee's exit presentation / interview at the culmination of their Fellowship training. *See section 12.2*

Learning Outcomes:

- understand the principles of clinical research, clinical research methods and the translation of research into clinical practice
- encourage the practice of clinical questioning and continual quality improvement in the workplace
- demonstrate evidence-based clinical practice
- interpret and communicate research evidence in a meaningful way
- identify and critically appraise literature to inform practice
- contribute to the body of knowledge in breast medicine.

Assessment

- submission and presentation of the project as above.