Education renewal

Program handbook

Advanced Training in Cardiology (Adult Internal Medicine)

RACP Specialists. Together

About this document

This program handbook outlines the learning, teaching, and assessment (LTA) programs for Advanced Training in Cardiology (Adult Internal Medicine) for trainees and supervisors.

This handbook should be used in conjunction with the Advanced Training in Cardiology (Adult Internal Medicine) curriculum standards.

For more information or to provide feedback contact curriculum@racp.edu.au.

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Program overview

Purpose of Advanced Training

The RACP offers Advanced Training in 33 diverse medical specialties as part of Division, Chapter, or Faculty training programs.

The purpose of Advanced Training is to develop a workforce of physicians who:

- have received breadth and depth of focused specialist training, and experience with a wide variety of health problems and contexts
- are prepared for and committed to independent expert practice, lifelong learning, and continuous improvement
- provide safe, quality health care that meets the needs of the communities of Australia and Aotearoa New Zealand.

Learning, teaching, and assessment (LTA) structure

The learning, teaching, and assessment structure defines the framework for delivery and trainee achievement of the curriculum standards in the Advanced Training program.

Advanced Training is structured in three phases. These phases will establish clear checkpoints for trainee progression and completion.

1	**Specialty foundation**	• Orient trainees and confirm their readiness to progress in the Advanced Training program
2	**Specialty consolidation**	• Continue trainees' professional development in the specialty and support progress towards the learning goals
3	**Transition to Fellowship**	• Confirm trainees' achievement of the curriculum standards, completion of Advanced Training, and admission to Fellowship • Support trainees' transition to unsupervised practice

Figure 1: Advanced Training learning, teaching, and assessment structure

- An **entry decision** is made before entry into the program.
- **Progress decisions**, based on competence, are made at the end of the specialty foundation and specialty consolidation phases of training.
- A **completion decision**, based on competence, is made at the end of the training program, resulting in eligibility for admission to Fellowship.

Learning goals

For Cardiology (Adult Internal Medicine), the curriculum standards are summarised as **19** learning goals.

Learning and assessment activities are linked to the learning goals to ensure that these activities align with the standards and trainees are able to demonstrate learning across the breadth of the curriculum.

The learning goals articulate what trainees need to be, do, and know, and are assessed throughout training on a five-point scale.

		Progression criteria		Completion criteria
	Learning goals	Specialty foundation *By the end of this phase, trainees will:*	Specialty consolidation *By the end of this phase, trainees will:*	Transition to Fellowship *By the end of training, trainees will:*
Be	**1. Professional behaviours**	**Level 4** need to work on behaviour in **1 or 2 domains** of professional practice	**Level 5** consistently behave in line with **all 10 domains** of professional practice	**Level 5** consistently behave in line with **all 10 domains** of professional practice
Do (work tasks)	**2. Team leadership:** Lead a team of health professionals	**Level 2** be able to be present and observe	**Level 4** be able to act with direct supervision at a distance	**Level 5** be able to provide supervision
	3. Supervision and teaching: Supervise and teach professional colleagues	**Level 2** be able to be present and observe	**Level 4** be able to act with direct supervision at a distance	**Level 5** be able to provide supervision
	4. Quality improvement: Identify and address failures in health care delivery	**Level 2** be able to be present and observe	**Level 3** be able to act with indirect supervision	**Level 5** be able to provide supervision
	5. Clinical assessment and management: Clinically assess and manage the ongoing care of patients	**Level 2** be able to be present and observe	**Level 4** be able to act with direct supervision at a distance	**Level 5** be able to provide supervision
	6. Management of transitions in care: Manage the transition of patient care between health care professionals, providers, and contexts	**Level 2** be able to be present and observe	**Level 4** be able to act with direct supervision at a distance	**Level 5** be able to provide supervision
	7. **Acute care:** Manage the early care of acutely unwell patients	**Level 2** be able to be present and observe	**Level 4** be able to act with direct supervision at a distance	**Level 5** be able to provide supervision
	8. Communication with patients: Discuss diagnoses and management plans with patients	**Level 2** be able to be present and observe	**Level 4** be able to act with direct supervision at a distance	**Level 5** be able to provide supervision
	9. Procedures: Plan, prepare for, perform, and provide aftercare for important practical procedures and investigations	**Level 2** be able to be present and observe	**Level 3** be able to act with indirect supervision	**Level 4** be able to act with direct supervision at a distance

	10. Clinic management: Manage an outpatient clinic	**Level 2** be able to be present and observe	**Level 4** be able to act with direct supervision at a distance	**Level 5** be able to provide supervision
	11. Manage patients with untreatable, life-limiting cardiac conditions: Manage the care of patients with untreatable, life-limiting cardiac conditions	**Level 2** be able to be present and observe	**Level 3** be able to act with indirect supervision	**Level 5** be able to provide supervision

		Progression criteria		Completion criteria
	Learning goals	Specialty foundation *By the end of this phase, trainees will:*	Specialty consolidation *By the end of this phase, trainees will:*	Transition to Fellowship *By the end of training, trainees will:*
Know (knowledge guides)	**12. Scientific foundations of cardiology**	**Level 3** know how to apply the knowledge in this knowledge guide to patient care (*knows how*)	**Level 4** frequently show they can apply the knowledge in this knowledge guide to patient care (*shows how*)	**Level 5** consistently apply sound knowledge in this knowledge guide to patient care (*does*)
	13. Management of the acutely unwell (shocked) cardiac patient	**Level 2** know the topics and concepts in the knowledge guide that underpin patient care (*knows*)	**Level 4** frequently show they can apply the knowledge in this knowledge guide to patient care (*shows how*)	**Level 5** consistently apply sound knowledge in this knowledge guide to patient care (*does*)
	14. Coronary artery disease	**Level 3** know how to apply the knowledge in this knowledge guide to patient care (*knows how*))	**Level 4** frequently show they can apply the knowledge in this knowledge guide to patient care (*shows how*)	**Level 5** consistently apply sound knowledge in this knowledge guide to patient care (*does*)
	15. Conditions affecting the circulation	**Level 3** know how to apply the knowledge in this knowledge guide to patient care (*knows how*)	**Level 4** frequently show they can apply the knowledge in this knowledge guide to patient care (*shows how*)	**Level 5** consistently apply sound knowledge in this knowledge guide to patient care (*does*)
	16. Structural heart disease, including valvular and congenital heart disease	**Level 2** know the topics and concepts in the knowledge guide that underpin patient care (*knows*)	**Level 3** know how to apply the knowledge in this Knowledge Guide to patient care (*knows how*)	**Level 4** frequently show they can apply the knowledge in this knowledge guide to patient care (*shows how*)
	17. Rhythm disorders	**Level 2** know the topics and concepts in the knowledge guide that underpin patient care (*knows*)	**Level 4** frequently show they can apply the knowledge in this knowledge guide to patient care (*shows how*)	**Level 5** consistently apply sound knowledge in this knowledge guide to patient care (*does*)

	18. Heart failure	**Level 3** know how to apply the knowledge in this knowledge guide to patient care (*knows how*)	**Level 4** frequently show they can apply the knowledge in this knowledge guide to patient care (*shows how*)	**Level 5** consistently apply sound knowledge in this knowledge guide to patient care (*does*)
	19. Interactions with other specialties and systems	**Level 2** know the topics and concepts in the knowledge guide that underpin patient care (*knows*)	**Level 4** frequently show they can apply the knowledge in this knowledge guide to patient care (*shows how*)	**Level 5** consistently apply sound knowledge in this knowledge guide to patient care (*does*)

Training program requirements summary

Entry and registration requirements

What do I need to do?	When do I need to do it?
1 registration form	*At the start of each phase of training*

Prospective trainees can demonstrate:

Entry attributes	• The commitment and capability to pursue a career as a cardiologist. • The ability and willingness to achieve the following learning goals: » team leadership » supervision and teaching » professional Behaviours, as outlined in the Competencies.
Entry criteria	• Completion of the RACP Basic Training Program. • General medical registration with the Medical Board of Australia if applying in Australia, or medical registration with a general scope of practice with the Medical Council of New Zealand and a practising certificate if applying in Aotearoa New Zealand. • A clinical training position accredited for core Advanced Training in RACP Cardiology.

Learning program requirements

What do I need to do?	When do I need to do it?
Clinical experience	
• Complete at least 36 months of relevant professional experience in approved rotations in at least 2 different training settings.	• In any sequence over the course of training.
Location of training	
• Complete training in at least 2 different accredited training settings. • Complete at least 24 months of training in accredited training settings in Australia and/or Aotearoa New Zealand.	• In any sequence over the course of training.
Experiential training	
• **Cardiothoracic surgical training (CST)** 2 quarantined full weeks' attachment to a cardiothoracic surgical unit at a minimum. CTS Training can be completed through a 1-week attachment across 2 years of training. Variations can be made to suit staffing requirements of individual cardiology and surgical units. Trainees based in Aotearoa New Zealand can complete the requirement during their CTS rotation. • **Electrophysiology training** can be achieved by a single dedicated attachment to an EP unit for at least 3 weeks or through a series of attachments, such as one session or day, over a training period. • **Experience in rural/remote contexts (recommended)** 2 full days' rural/remote and/or Indigenous health outreach clinics per year of training (6 full days or equivalent) over the course of Advanced Training, ideally face-to-face, but telehealth accepted where face-to-face is unavailable.	• In any sequence over the course of training.
Learning courses	
• RACP **Induction to Advanced Training** self-paced online resource*	• Once within the first 6 months of Advanced Training.
• RACP **Health Policy, Systems, and Advocacy** self-paced online resource*	• Once, recommended completion before the Transition to Fellowship phase.
• RACP Supervisor Professional **Development** Program (SPDP)	• Once over the course of training.
• Cardiac Society of Australia and New Zealand **Cardiac Genomics masterclass** (optional)	• Optional course

*Resource to be developed

Teaching program requirements

What do I need to do?	When do I need to do it?
• **2 named individuals for the role of Education Supervisor**, who are Fellows of the RACP • *Recommended: wherever possible, trainees should maintain the same Education Supervisors throughout a phase of training.*	• Each accredited or approved training rotation.
• **1 nominated RACP training committee** to act as a Progress Review Panel.	• 1 over the course of training.
• **1 named individual for the role of Research Project Supervisor** (may or may not be the Education Supervisor).	• 1 over the course of training.

Assessment program requirements

What do I need to do?	When do I need to do it?
	Per phase of training (i.e., each year)
1 learning plan.	At the start of each phase of training, and reviewed every 6 months (minimum), or every 3 months if the trainee has 3-month rotations or is on the Training Support pathway.
12 learning captures, across the range of learning goals.	Minimum 1 every 3 months.
4 observation captures, across the range of learning goals.	Minimum 1 every 3 months.
2 progress reports.	Minimum of 1 every 6 months, or 1 every 3 months if the trainee changes rotations or is on a Training Support pathway. (Note: final progress report for each phase includes end-of-phase review.)
	Once over the course of training (if passed)
1 research project proposal.	Submitted during the Specialty foundation phase.
1 research project.	Submitted for marking before the start of the Transition to Fellowship phase.
1 logbook that demonstrates completion of the minimum procedural requirements.	To be maintained over the course of training, and submitted by 15 October during the Transition to Fellowship phase.
1 cardiothoracic surgery (CTS) progress report.	Once over the course of training, due 15 October in the final year of training.

The RACP has set these as the minimum assessment requirements, though more work-based assessments are encouraged.

See Appendix 1 for details on each of the learning and assessment tools.

Procedural requirements

Over the course of Advanced Training in Cardiology, trainees are required to record evidence of completion of these procedural requirements in their logbook.

Cath lab	Minimum number
Perform and report coronary angiograms	150 75 as primary operator
Perform right heart catheterisation and haemodynamic studies	20
Temporary transvenous pacemaker insertion	10 including RV pacing wire insertion
Participate in permanent pacemaker (PPM) implantation	10
Participate in device testing in pacemaker clinic	75 including 50 dual chamber
Participate in percutaneous mechanical support device implantation and/or management	1
Observe transcatheter aortic valve implantation (TAVI)	5
Structural case discussions of your choice (e.g., percutaneous mitral valve procedures)	5
	Recommended
Observe or participate in (if possible) management of pericardial effusion, including aspirations	10 at least 5 must be in aspirations

Non-invasive	Minimum number
Report Holter monitor under supervision	50
Perform direct current cardioversion	10
TOTAL stress testing (exercise or stress echocardiogram)	75 of which at least 50 must be stress echocardiogram (not included in 500 echocardiogram reports)
TOTAL echo reports*	500
Perform and report transthoracic echocardiogram	300 (included in 500 echo reports), ● of which 100 must be performed under the supervision of a sonographer,

	• of which 100 must be reported under the supervision of a cardiologist
Perform and report transesophageal echocardiogram	50 (included in 500 echo reports)
Report echocardiogram under supervision	No minimum

* Ideally, trainee's name should be on the echo reports.

Electrophysiology (EP) requirements	Minimum number
Electrophysiology study (EPS) referral or participation	20
Participate in catheter ablation study	5 included in 20 EPS
Participate in decision making, assessment, and management of patients undergoing cardiac resynchronisation therapy (CRT)	3 included in 20 total CRD/ICD mix
Participate in referral and/or implantation and post-procedure management of implantable cardioverter defibrillator (ICD)	6 included in 20 total CRD/ICD mix
TOTAL ICD/CRT	20

Ambulatory care	Minimum number
Review **new** outpatients	150 As part of the 400 total outpatients
Review outpatients by **video/telehealth** consultation	30 as part of the 400 total outpatients
Total review outpatients*	400 of which at least 150 must be new cases, and at least 30 must be video/telehealth

* It is expected this number of outpatient reviews encompass a cross-section of patient groups, including Indigenous patients, and a broad spectrum of cardiac conditions (e.g. heart failure, arrhythmias, post-MI management).

Cardiac imaging*	Minimum number
Cardiac MRI studies	5 cases
Cardiac CT	50 • of which 40 must be in CT coronary angiogram • of which 10 must be in CTs performed for evaluation of potential TAVI procedures

Exposure to nuclear cardiological investigations (can include stress MIBI scan, PET scan, cardiac blood pool scan)	5

* Can be reported with a cardiologist or radiologist who is CT accredited.

Program requirements by phase of Advanced Training

Specialty foundation phase

Purpose

- Orient trainees and confirm their readiness to progress in their Advanced Training specialty.

Duration

- 12 months full-time equivalent (FTE).

Entry attributes and criteria

Entry attributes

Prospective trainees can demonstrate:

- the commitment and capability to pursue a career as a physician in cardiology
- the ability and willingness to achieve the common learning goals for Advanced Training:
  - team leadership
  - supervision and teaching
  - the professional behaviours, as outlined in the Competencies.

Entry criteria

- An Advanced Training position in an RACP-accredited training setting or network.
- General medical registration with the Medical Board of Australia if applying in Australia or a medical registration with a general scope of practice with the Medical Council of New Zealand and a practising certificate if applying in Aotearoa New Zealand.
- Completion of Basic Physician Training.

Learning program

- 12 months' FTE **relevant professional experience** in approved training rotations.
- Required **learning courses**:
  - » RACP Induction to Advanced Training resource*
  - » Health Policy, Systems and Advocacy resource*^
  - » RACP Supervisor Professional Development Program^.
- Recommended learning courses:
  - » RACP Research Projects resource
  - » RACP eLearning resources
  - » RACP curated collections.

* Resource to be developed

^Required over the course of Advanced Training

Teaching program

- **2** named individuals for the role of Education Supervisor.
- **1** nominated **RACP training committee** to act as a Progress Review Panel.
- **1** named individual for the role of **Research Project Supervisor** (may or may not be the Education Supervisor).
- Supplementary resources for **supervisors**:
  - » Supervisor Professional Development Program
  - » RACP Research Supervision resource
  - » RACP Training Support resource
  - » RACP Creating a Safe Workplace resource
- Supplementary resources for **training settings and networks**:
  - » Training provider standards for clinical training programs
  - » Training network principles
  - » RACP Trainee Selection and Recruitment guide.

Assessment program

- **12** learning captures (minimum of ~1 per month) across the range of learning goals.
- **4** observation captures (minimum of ~1 per quarter) across a range of learning goals.
- **1** learning plan, reviewed 6 monthly.
- **2** progress reports (minimum 1 per 6 months).
- **1** research project proposal.
- **1** logbook.

Progression criteria

To progress to the Specialty consolidation phase, trainees can demonstrate:

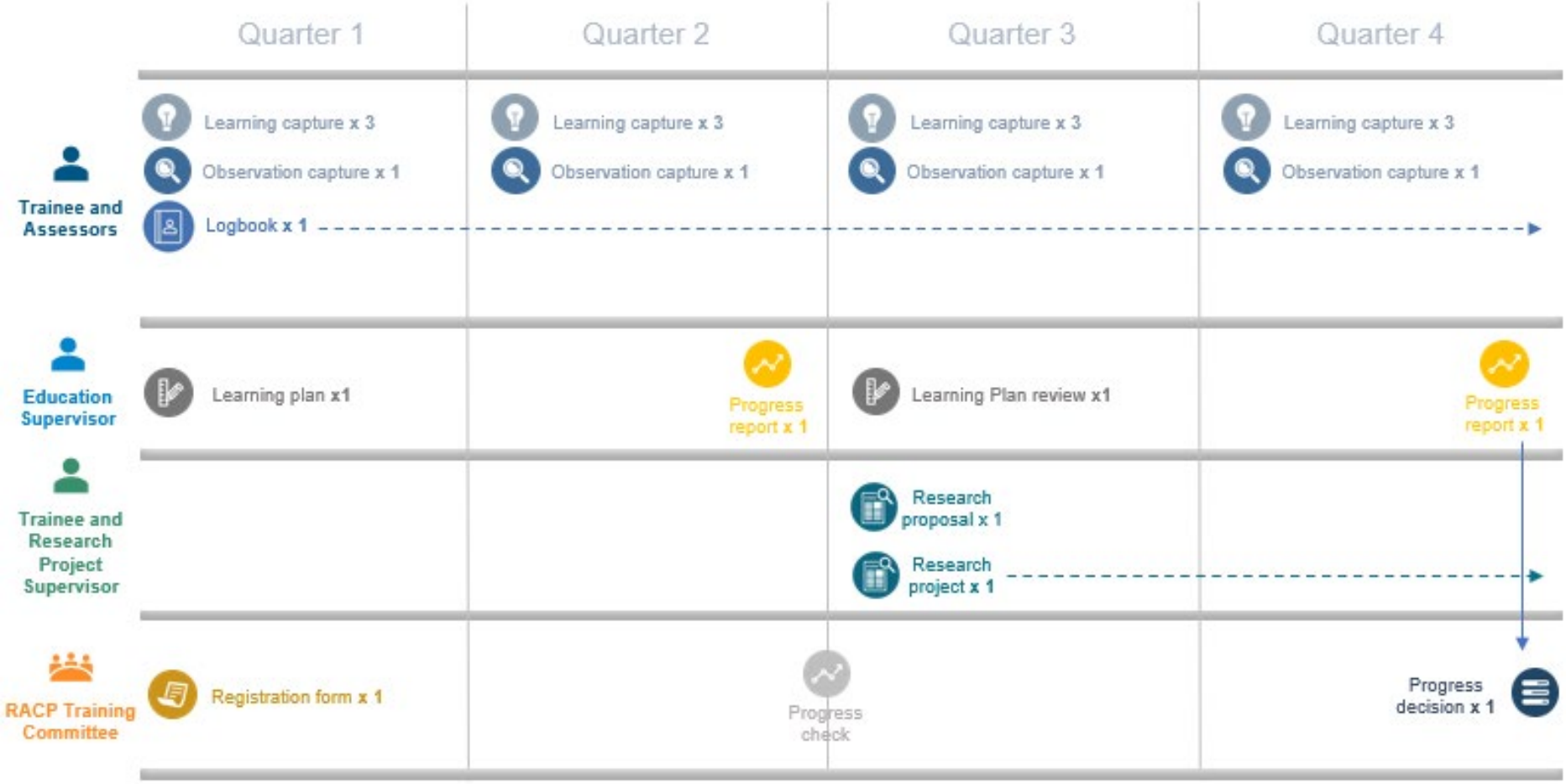
- the ability to plan and manage their learning and to complete their learning and assessment requirements in a timely manner
- achievement of the learning goals to the levels outlined in the progression criteria.

It is **recommended** that trainees complete the following learning courses (if not completed previously):

- RACP Communication skills resource
- RACP Australian Aboriginal, Torres Strait Islander and Māori Cultural Competence resource
- RACP Ethics and Professional Behaviour resource
- RACP Leadership, Management, and Teamwork resource

If a trainee cannot demonstrate they have satisfied the above criteria, they need to continue in their current phase and complete a learning plan to focus on areas in which they need to improve.

Specialty foundation phase



Specialty consolidation phase

Purpose

- Continue trainees' professional development in the specialty and support progress towards the learning goals.

Duration

- 12 months[1] full-time equivalent (FTE).

Entry criteria

Prospective trainees can demonstrate:

- certification of the Specialty foundation phase by the training committee overseeing the Specialty consolidation phase
- an Advanced Training position in an RACP-accredited training setting or network.

Learning program

- 12 months' FTE **professional experience** in approved training rotations.
- Required **learning course**:
  - » Health Policy, Systems and Advocacy resource*^
- Recommended learning course:
  - » RACP Communicating Risks and Benefits resource.

* Resource to be developed

^ Required over the course of Advanced Training

Teaching program

- *As per Specialty foundation phase.*

Assessment program

- **12** learning captures (minimum of ~1 per month) across the range of learning goals.
- **4** observation captures (minimum of ~1 per quarter) across a range of learning goals.
- **1** learning plan, reviewed 6-monthly.
- **1** research project.
- **2** progress reports (minimum 1 per 6 months).
- **1** logbook.

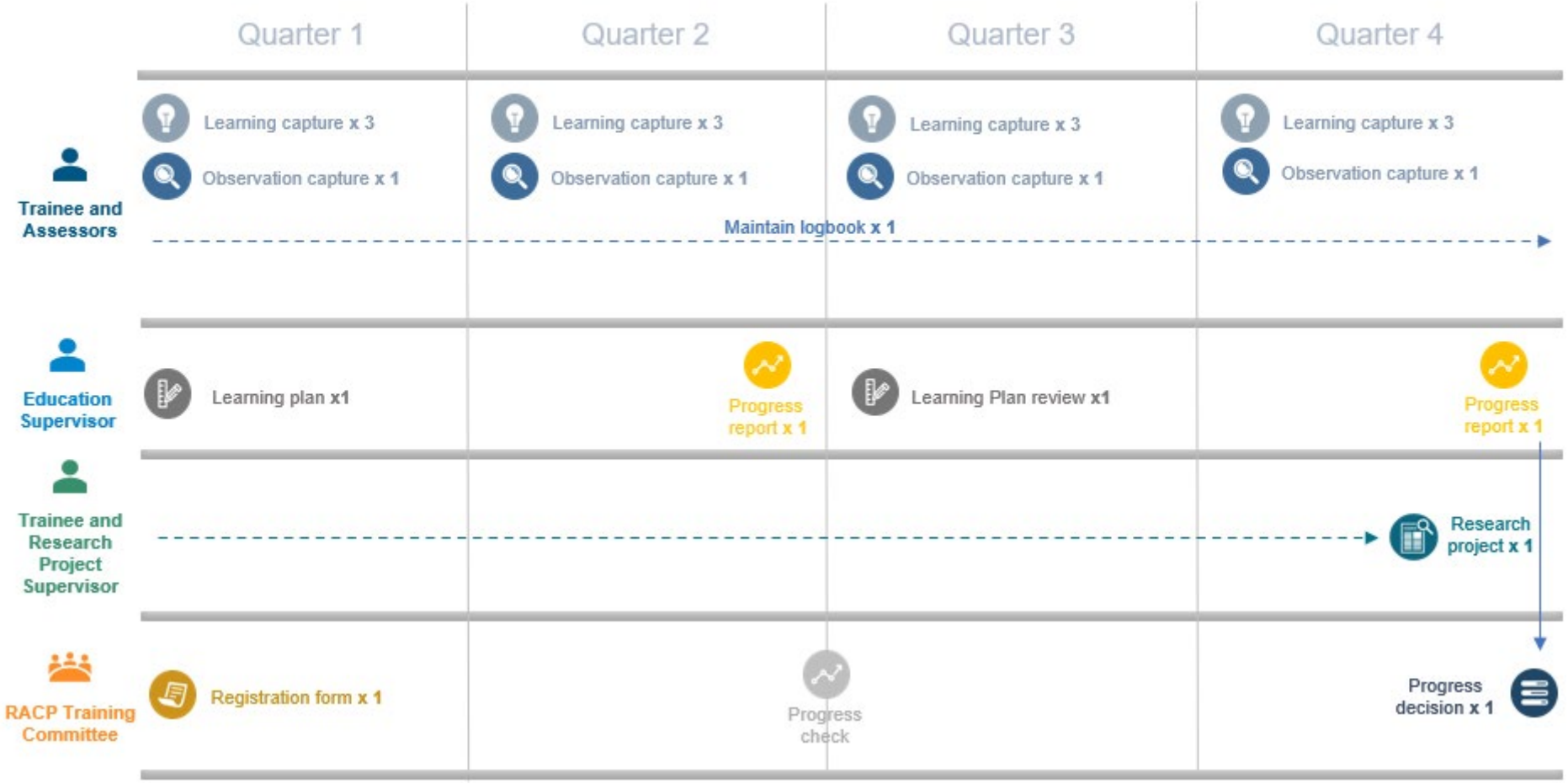
Progression criteria

To progress to the Transition to Fellowship phase, trainees can demonstrate:

- submission of the Research project
- the ability to plan and manage their learning and to complete their learning and assessment requirements in a timely manner
- achievement of the learning goals to the levels outlined in the progression criteria.

If a trainee cannot demonstrate they have satisfied the above criteria, they need to continue in their current phase and complete a learning plan to focus on areas in which they need to improve.

Specialty consolidation phase



Transition to Fellowship phase

Purpose

- Confirm trainees' achievement of the curriculum standards, completion of Advanced Training, and admission to Fellowship.
- Support trainees' transition to unsupervised practice.

Duration

- 12 months full-time equivalent (FTE).

Entry criteria

Prospective trainees can demonstrate:

- certification of the Specialty consolidation phase by the training committee overseeing the Transition to Fellowship phase
- submission of one research project
- an Advanced Training position in an RACP-accredited training setting or network.

Learning program

- 12 months' FTE professional experience in approved training rotations.

Teaching program

- *As per Specialty foundation phase.*

Assessment program

- **12** learning captures (minimum of ~1 per month) across the range of learning goals.
- **4** observation captures (minimum of ~1 per quarter) across a range of learning goals.
- **1** learning plan, reviewed 6-monthly.
- **2** progress reports (minimum 1 per 6 months).
- **1** logbook.
- **1** cardiothoracic surgery (CTS) progress report.

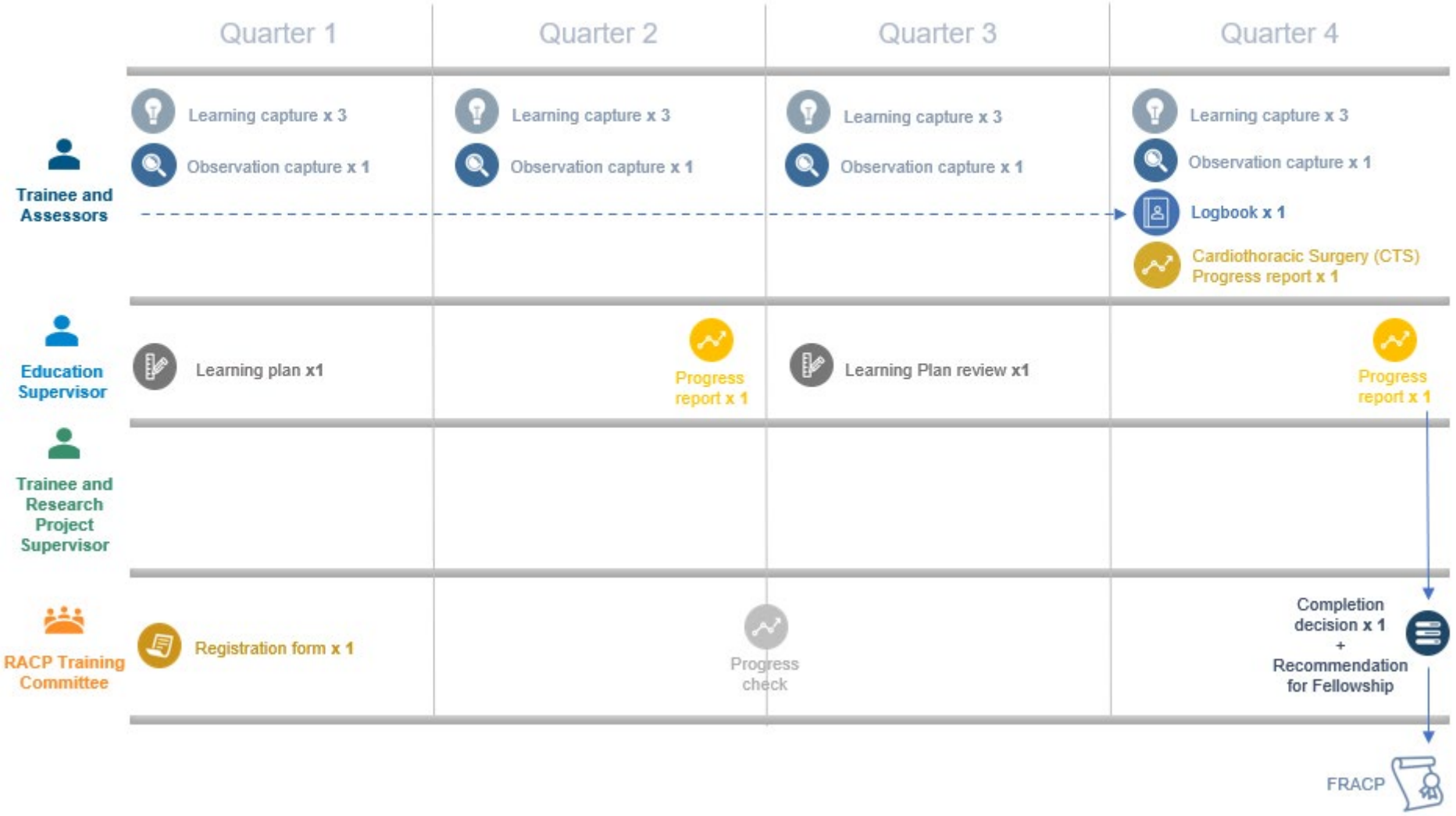
Completion criteria

To complete the Advanced Training program, trainees can demonstrate:

- the ability to evaluate and manage their learning and to complete all requirements of training in a timely manner
- achievement of the learning goals to the levels outlined in the progression criteria
- completion of a satisfactory research project
- completion of the Supervisor Professional Development Program
- completion of the following learning courses (if not completed previously):
  - RACP Communication skills resource
  - RACP Australian Aboriginal, Torres Strait Islander and Māori Cultural Competence resource
  - RACP Ethics and Professional Behaviour resource
  - RACP Leadership, Management, and Teamwork resource

If a trainee cannot demonstrate they have satisfied the above criteria, they need to continue in their current phase and complete a learning plan to focus on areas in which they need to improve.

Transition to Fellowship phase



Appendix 1: Learning and assessment tools

A suite of tools will be used to support learning and assess the curriculum standards.

	Registration form A College-run process to enrol trainees and assess entry attributes and criteria.
	Learning plan A work-based tool to facilitate the planning and review of learning goals at regular intervals.
	Learning capture A trainee-driven tool to facilitate the gathering of evidence of work-based learning linked to learning goals.
	Observation capture Supervised observation of trainees' work-based performance, linked to learning goals.
	Research project Enable trainees to develop experience in research methods in a work-based context, the ability to interpret research literature and quality improvement skills, and achieve the Professional Behaviours learning goal (the Research domain).
	Progress report Assess progress against all learning goals for the quarter and the phase, and progress against the criteria to progress to the next phase.
	Logbook A tool to facilitate the capture of data about specific workplace experiences.