Development of an Entrustable Professional Activities Framework for Physiotherapists Working in Orthopaedic Triage and Assessment Roles in New Zealand

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ABSTRACT

In New Zealand, an increasing number of physiotherapists have been engaged in orthopaedic triage and assessment (OTA) roles within elective orthopaedic departments to help optimise surgeon clinic time and improve timely access to diagnostic assessment and treatment planning for people with musculoskeletal conditions. To date no framework has been available to guide physiotherapists and surgeons in developing these roles. This commentary describes the development of an Entrustable Professional Activity (EPA) framework for physiotherapists in OTA roles in which five key clinical activities were identified. The framework defines the context, limitations, knowledge, skills, attributes, and behaviours needed for each activity. The EPAs were mapped to existing New Zealand physiotherapy competencies and key competencies identified that are needed for safe and effective practice with minimal or no supervision. This EPA framework is intended for use in elective orthopaedic departments, to support the development of physiotherapists working in orthopaedic triage and assessment roles in clinical subspecialty areas.

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INTRODUCTION

Musculoskeletal complaints are a major health concern, affecting approximately 1.71 billion individuals worldwide and a leading contributor to disability globally, with an enormous impact on quality of life and work productivity, and an increasing burden on healthcare systems (World Health Organization, 2022). In New Zealand, musculoskeletal conditions represent approximately 12% of all non-communicable diseases (Ministry of Health, 2020) and account for 23% of the annual health expenditure (Arthritis New Zealand, 2018). Low back pain, osteoarthritis, and shoulder pain are among the most prevalent musculoskeletal conditions and represent a substantial portion of primary care and specialist consultations (Liu et al., 2022).

"Musculoskeletal" is defined as "of, relating to, or involving both musculature and skeleton" (Mirriam-Webster, n.d.a). "Orthopaedics" is defined as "the branch of surgery concerned with disorders of the spine and joints and the repair of deformities of these parts" (Mirriam-Webster, n.d.b). Effective management of musculoskeletal conditions requires timely access to the appropriate surgical (orthopaedic) or non-surgical treatment pathway for the individual (Speerin et al., 2020). The demand for both non-surgical and surgical management pathways for musculoskeletal conditions is likely to increase in coming years due to an increasing ageing population (Fayaz et al., 2016; World Health Organization, 2022).

In New Zealand, there continues to be a lack of primary care funding for the non-surgical management of chronic

musculoskeletal conditions, including community-based physiotherapy and interventional procedures (Speerin et al., 2020). Data collected from the New Zealand regional health services between 2019 and 2022 show the number of people waiting more than 12 months for a First Specialist Assessment (FSA) across all elective specialty services, including orthopaedics, increased from 253 to 4,255, and the number waiting more than four months increased from 12,894 to 35,264 (Te Whatu Ora, 2022). It is clear the healthcare system in New Zealand is facing significant challenges to meet its demands and deliver equitable and timely care for people with musculoskeletal conditions (Ministry of Health, 2020; Naik et al., 2023).

Advanced practice physiotherapy models

Many countries have been exploring alternative models to improve access to timely care from appropriately qualified professionals for people with musculoskeletal and orthopaedic conditions in both primary and secondary care (Bicker et al., 2024; Goodwin et al., 2021; Goodwin & Hendrick, 2016; Samsson et al., 2016). These models aim to direct patients to the appropriate management pathway, facilitate timely access to care (minimise waiting times), and optimise consultant clinic time. Several models are described, which include physiotherapists being utilised in orthopaedic departments for pre-operative screening and optimisation, post-operative follow-up, and orthopaedic triage and assessment roles (OTA) with data supporting the utilisation of physiotherapists in these roles to improve timely access to appropriate care (Marks et al., 2017; Trøstrup et al., 2020; Vedanayagam et al., 2021; Williams et al., 2019).

Orthopaedic triage and assessment

OTA roles are based within clinical subspecialty services in elective orthopaedic outpatient departments where physiotherapists assist surgeons with triage of referrals, and carry out clinical assessment and treatment planning services (Downie et al., 2019; Goodwin et al., 2021; Jones, 2018). The aim of OTA roles is to optimise surgeon clinic time by taking on referral management responsibilities (triage) and to provide a comprehensive clinical assessment to evaluate the management needs of patients with musculoskeletal conditions and to facilitate access to appropriate elective surgical and non-surgical clinical pathways. Although there is no universally agreed definition of orthopaedic triage, it is generally understood to be the process by which a team (most often a physiotherapist and surgeon team) reviews a paper or electronic referral from a general practitioner and allocates the patient to an appropriate clinical pathway as a precursor to a clinic-based assessment for more detailed treatment planning (Morris et al., 2015). Most commonly, triage is used as a waiting list management strategy to prioritise patients for surgery according to urgency, and to screen and streamline care through assessment, diagnosis, and appropriate treatment planning for patients referred to a specialty service (Morris et al., 2015).

Implementation of OTA roles has been shown to increase department capacity to accept referrals for people whose referrals would otherwise likely be declined and therefore to reduce the unmet need (Marks et al., 2017). Other benefits of OTA services in orthopaedic departments include reduced wait times for orthopaedic FSA, releasing surgeon time for higher priority surgical cases, completion of diagnostic work-up prior to FSA, and completion of non-surgical management pathways helping to improve surgical conversion rates (Marks et al., 2017). High levels of agreement between the surgeon and physiotherapist with regard to diagnosis and treatment plans are reported and patient satisfaction with OTA services is high (Desmeules et al., 2012; Desmeules et al., 2013; Lyons et al., 2022; Madsen et al., 2021; Napier et al., 2013; Trøstrup et al., 2020; Vedanayagam et al., 2021).

Orthopaedic triage and assessment roles in New Zealand

Orthopaedic triage and assessment roles are not new in New Zealand. Physiotherapists have been working within orthopaedic departments in OTA roles in New Zealand since at least 2002 (Hames & Exton, 2010; Naik, 2021). In 2014 a regional Canterbury initiative was implemented in response to the government's focus on improving access to "better, sooner and more convenient" care for musculoskeletal conditions (Ministry of Health, 2011). This initiative consisted of a physiotherapy-led orthopaedic triage and assessment service in the elective orthopaedic department (shoulder service) and allocation of public funding for community-based physiotherapy treatment. Additionally, it established a network of general practitioners with training in providing peripheral corticosteroid injections (McGonigle & McGeoch, 2020). This was one of the first integrated primary and secondary care models. This model recognised the need to provide additional resource for delivery of community-based non-surgical treatments including physiotherapy and injections, for patients referred from the new non-surgical assessment pathway in secondary care.

Based on the Canterbury Initiative experience, a role description and training framework for orthopaedic physiotherapy practitioner (OPP) roles was developed in collaboration with the New Zealand Orthopaedic Association (NZOA) (Cadogan, 2018). This initial document outlined the definition and scope of OTA roles, detailed the administrative and resource requirements, and provided an overview of clinical governance including suggested training models to guide surgeons in setting up OTA roles in their departments.

Since then, OTA roles have become established in many elective orthopaedic departments across New Zealand. These roles have been developed on an ad-hoc basis, being adapted to the specific needs of the local service with provision of on-the-job training and supervision from orthopaedic consultants (Naik, 2021). However, funding for these roles has been difficult to secure, with most roles being funded through secondment of funding from existing salaried physiotherapy budgets within public hospitals, thus limiting widespread uptake of these roles (Naik, 2021).

The evolving health system

In 2022, the New Zealand Planned Care Taskforce was created to again review and improve access to elective services. The taskforce developed a "Reset and Restore Plan" with recommendations to enhance the current health system, which included the utilisation of highly trained allied health professionals to complete first assessments for musculoskeletal conditions to increase access to care and reduce waitlists (Te Whatu Ora, 2022).

OTA roles often involve the assessment of complex clinical presentations with physiotherapists regularly encountering situations that border, or fall outside, the scope of physiotherapy practice. However, no competency or capability frameworks are currently available that are specific to the New Zealand setting to help guide the safe and effective practice in OTA roles (Naik, 2021). As physiotherapist-led roles in various orthopaedic subspecialties continue to expand in New Zealand, and with stakeholders exploring nationwide development and funding of similar roles, a detailed competency framework is needed to ensure consistent standards of practice for the whole profession to ensure safe, effective patient management across primary, public, and private sectors.

To address this need, a group of physiotherapists with experience working in OTA roles formed a working group to develop a competency framework. The intended purpose was to identify key competencies required for OTA roles and develop a pragmatic competency framework that can be used by physiotherapists and orthopaedic surgeons in elective orthopaedic departments to support the development of safe and efficient clinical practice for physiotherapists working in these roles across New Zealand.

DEVELOPMENT OF THE COMPETENCY FRAMEWORK

In 2018, as interest in OTA roles grew, a virtual Zoom meeting was convened with approximately 30 physiotherapists from across New Zealand who were either actively engaged in or interested in OTA roles. The meeting underscored significant issues such as resource duplication, lack of professional support, and the pressing need for a comprehensive capability and training framework to facilitate "on-the-job" training, ultimately enabling physiotherapists to competently and safely perform their specialised duties with minimal supervision (Figure 1).

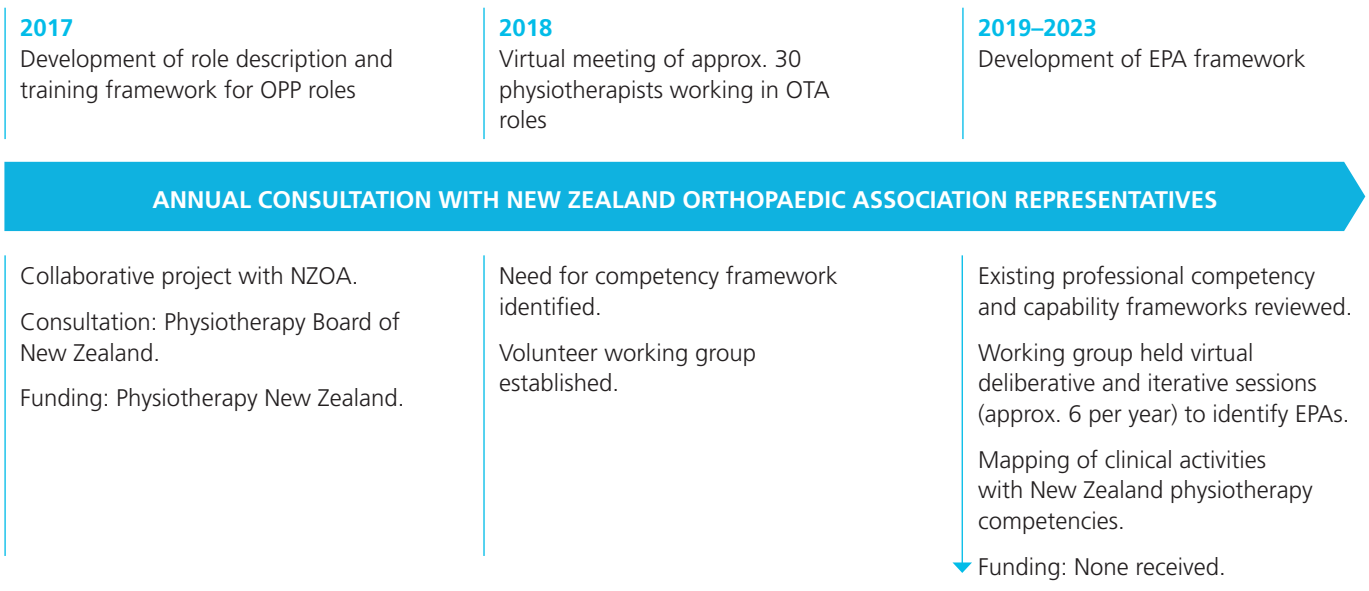
Following this meeting six physiotherapists, who collectively possessed over 40 years of experience in OTA roles in New Zealand, volunteered to form a working group to further define the role, scope, and associated clinical competencies for these roles (Table 1). The guiding principles of the working group included:

1. the importance of the physiotherapist–surgeon partnership with collaboration and support from the wider orthopaedic community
2. a practical framework that was easy to implement with the ability to train on the job
3. a framework that maps to existing New Zealand physiotherapy competencies (Physiotherapy Board of New Zealand, 2022b).

The working group conducted an informal scoping review of existing local and international competency frameworks related to physiotherapists working within advanced practice roles in the domain of musculoskeletal physiotherapy. Six competency frameworks were identified with existing role descriptions and competencies for physiotherapists operating at advanced levels of practice within the domains of musculoskeletal physiotherapy or orthopaedic triage (Table 2) (Australian Physiotherapy Association, 2019, 2023; Chartered Society of Physiotherapy, 2018; Health Education England, 2017, 2021; International Federation of Orthopaedic Manipulative Physical Therapists (IFOMPT) Inc., 2016; Scottish Government, 2013). All these were based on international models from the United Kingdom, Canada, and Australia. Only one advanced practice competency framework was identified that is specific to the New Zealand setting (Physiotherapy Board of New Zealand, 2022a). However, this is not (nor was it intended to be) specific to the musculoskeletal domain and does not adequately detail

Figure 1

Timeline and Summary of Methods



Note . EPA = entrustable professional activity; NZOA = New Zealand Orthopaedic Association; OPP = orthopaedic physiotherapy practitioner; OTA = orthopaedic triage and assessment.

Table 1

*Description of the Working Group (*N *= 6)*

Description	*n* [a]
Age (years), *M* (range)	45.5 (36–58)
Time working in OTA role (years), *M* (range)	8.1 (6–12)
Clinical setting	
Orthopaedic department (DHB/Health NZ)	5
DHB band level	11–17
Orthopaedic private practice	1
Clinical subspeciality	
Spine	3
Shoulder	3
Location	
Counties-Manukau, Auckland	2
Waitemata, Auckland	1
Canterbury	2
Private practice, Auckland	1
Education	
Bachelor's degree	1
Master's degree	3
PhD/DHSc	2
Registration status	
General scope	4
Specialist	2

Note. DHB = district health board; OTA = orthopaedic triage and assessment.

[a] Except where indicated.

the specific competencies and performance criteria required for OTA roles.

Competency frameworks

In reviewing existing frameworks, the limitations of competency-based frameworks in the context of role-specific, on-the-job training became evident. Competency-based training such as the widely-used CanMeds framework (Royal College of Physicians and Surgeons of Canada, 2024) represents a deconstructed approach that focuses on achievement of specific clinical, professional, and ethical communication, education, and leadership competencies in isolation. However, this method is limited in its capacity to assess the clinician's ability to carry out clinical tasks requiring simultaneous application and integration of overlapping competencies (ten Cate & Young, 2012).

For example, when reviewing the results of radiologic investigations the physiotherapist must simultaneously integrate multiple competencies: 1) clinical competency in reading and interpreting the imaging, 2) communication competency in sensitively discussing the results with the patient or surgeon, 3) professional competency in understanding their limits of scope of practice, 4) self-directed and reflected learner competencies in managing risk in the presence of equivocal results, and 5) clinical competency (advanced clinical reasoning) in determining how the results inform changes to the treatment plan. While each one of these competencies could be assessed separately using existing competency frameworks, they do not provide information about the trainee's ability to perform specific tasks requiring integration of these competencies in specific contexts. For this reason, competency-based assessment has been questioned as an appropriate assessment method to justify decisions to entrust clinicians with specific clinical activities (ten Cate & Young, 2012).

Entrustable professional activities

Entrustable professional activities (EPAs) are an emerging concept used in the implementation of competency-based medical education (Mulder et al., 2010; Royal Australian and New Zealand College of Psychiatrists, 2024; University of Otago, 2024). EPAs are designed to link competency frameworks with actual practice providing a practical framework for training and assessment (ten Cate & Young, 2012).

An EPA is defined as a unit of professional practice that can be entrusted to a trainee when they have demonstrated competency to execute a specific activity without supervision (ten Cate et al., 2015). While competence describes the attribute of the practitioner, EPAs describe the attributes of the task that is then mapped to specific competencies to identify where knowledge, skills, or behaviours need to be developed in order to reach the level of entrustment for specific clinical activities. Although competency-based frameworks have been widely adopted to support similar advanced practice roles internationally (Australian Physiotherapy Association, 2019, 2023; Chartered Society of Physiotherapy, 2018; Health Education England, 2017, 2021; International Federation of Orthopaedic Manipulative Physical Therapists (IFOMPT) Inc, 2016; Scottish Government, 2013), the decision was made to develop an EPA framework that may be more practical for the New Zealand setting. Between 2019 and 2023 the working group participated in several deliberative and iterative rounds of discussion (with interruption during Covid-19 lockdowns) to develop an EPAs framework using the methodology described by ten Cate et al. (2015). In these sessions the working group reviewed and discussed the literature findings, and shared their own experiences to reach consensus on the key clinical activities performed by physiotherapists in these roles that aligned with the OPP role description previously developed collaboratively with the NZOA (Cadogan, 2018). A list of EPAs was compiled and associated knowledge, skill, and attributes/behaviour requirements for each EPA were identified, discussed, and refined.

ENTRUSTABLE PROFESSIONAL ACTIVITY FRAMEWORK FOR OTA ROLES

The working group identified 20 clinical tasks that are performed by physiotherapists working in OTA roles in New Zealand. Using established processes for development of EPAs (ten Cate et al., 2015) these clinical activities were grouped into five key tasks (Table 3).

1. Referral triage and management
2. Clinical assessment
3. Referring for diagnostic investigations
4. Treatment planning and management
5. Referring for interventional procedures

Table 2

List of Competency Documents Reviewed

Licensing body/organisation	Document title and reference
Australian Physiotherapy Association	Physiotherapy competence framework (2023), version 7.1 (Australian Physiotherapy Association, 2023)
	National advanced musculoskeletal practice (AMP) physiotherapy competency framework (Australian Physiotherapy Association, 2019)
Canadian Physiotherapy Association	Clinical speciality program (Canadian Physiotherapy Association, 2017)
New Zealand Nursing Council	Competencies for the mātanga tapuhi nurse practitioner scope of practice (New Zealand Nursing Council, 2017)
Chartered Society of Physiotherapy	Musculoskeletal core capabilities framework for first point of contact practitioners (Chartered Society of Physiotherapy, 2018)
	Physiotherapy framework (Chartered Society of Physiotherapy, 2020)
National Health Service/Health Education England	Multiprofessional framework for advanced practice in England (National Health Service, 2018)
Physiotherapy Board of New Zealand	Physiotherapists practising in a defined field standard (Physiotherapy Board of New Zealand, 2021)
	Physiotherapy specialist competencies (Physiotherapy Board of New Zealand, 2024)
	APP seven key competencies (Physiotherapy Board of New Zealand, 2022b)
Articles	Advanced practice in physiotherapy: A global survey (Tawiah et al., 2021)
	Developing a competency profile for international standardization of advanced practice physiotherapy (Tawiah, 2022)
	Developing a core competency and capability framework for advanced practice physiotherapy: A qualitative study (Tawiah et al., 2023)
	Developing an international competency and capability framework for advanced practice physiotherapy: A scoping review with narrative synthesis (Tawiah et al., 2024)
	Competency profile for physiotherapists in Canada (Canadian Alliance of Physiotherapy Regulators and Canadian Council of Physiotherapy Regulators, 2017)
	Advanced musculoskeletal physiotherapy practice: Informing education curricula (Fennelly et al., 2020)

Each EPA represents an activity that is related to patient care, can be readily observed and assessed, can be executed within a specific timeframe by registered physiotherapists, and is suitable for focused entrustment decisions in this setting (ten Cate & Taylor, 2021). To provide clarity to the role and help manage clinical risk the description of each EPA includes its context and limitations, knowledge requirements (Table 4), skill requirements, attitudes/behaviours (Table 5), and domains of competence (Table 6).

Context and limitations

The context and limitations for EPAs specifies the setting and population to whom the EPA applies, to provide clarity and to minimise clinical risk. All EPAs in this model apply to adult patients (> 16 years old) being assessed by physiotherapists in elective orthopaedic subspecialty clinics including presentations with moderate–high complexity.

Limitations specify what is not covered by the EPAs. In this model, general limitations and exclusions for the EPAs are paediatric patients, acute trauma, and those that fall outside the specific clinical subspecialty area, outside scope of physiotherapy practice, or outside the physiotherapist's area of specific training/expertise.

Physiotherapy competency mapping

The EPAs were then mapped to competency domains aligned with the Physiotherapy Board of New Zealand's (PBNZ) seven key competency areas (physiotherapy practitioner, professional and ethical practitioner, communicator, self-directed and reflective practitioner, collaborator, educator, manager/leader) at the minimum level of advanced practice physiotherapy (Physiotherapy Board of New Zealand, 2022a). Specific competencies domains relating to each EPA activity were identified (document available on request to the corresponding author). Within each competency domain, enabling competencies and performance criteria were developed that relate specifically to OTA roles. An EPA-competency matrix was then developed cross-referencing EPA activities with PBNZ competency domains (Table 6). Some competencies were included that did not meet criteria for an EPA, such as outcome monitoring, clinical audit, and risk analysis, because they are not discrete, observable clinical activities; however, these aligned with the role description for OTA roles.

The PBNZ had been previously consulted and had established that these roles fell within physiotherapy scope of practice (Cadogan, 2018). The NZOA provided feedback and input into the role description, EPAs, and associated competencies.

Table 3

Entrustable Professional Activities

EPA	Specific context and limitations [a]	Tasks
1. Referral triage and management	Triage and management of referrals for adults (> 16 years old) received to the elective orthopaedic service under the clinical oversight of orthopaedic specialist.	1.1. Evaluate patient referrals from GPs (or other referrers) and action a triage decision based on local service eligibility, access criteria, and clinical thresholds. 1.2. Send requests for further information to the referrer when required to reach a triage decision. 1.3. Arrange necessary diagnostic investigations when required in order to reach a triage decision. 1.4. Allocate accepted referrals to appropriate orthopaedic FSA or non-surgical assessment pathways and prioritise according to clinical urgency and service-specific prioritisation tools. 1.5. Escalate urgent/serious pathologies to appropriate clinical pathway. 1.6. Transfer patient referrals to other appropriate services or departments.
2. Clinical assessment of musculoskeletal conditions		2.1 Complete clinical assessments that include review of clinical notes, previous investigations and interventions, patient history, and physical examination. 2.2 Formulate a clinical differential diagnosis. 2.3. Escalate referrals for people with potentially serious pathologies, medical conditions, or complex pain presentations to local management pathways. 2.4 Dictate (or otherwise document) clinical notes for each clinical encounter and sign off/authorise dictated notes and letters prior to distribution.
3. Refer for diagnostic investigations for non-traumatic musculoskeletal conditions	Excludes requests for specific investigations that require medical sign-off where these are not covered under "standing order" or other agreed service/ department authorisations.	3.1 Refer for diagnostic investigations. 3.2 Follow-up, act-on, and communicate investigation results to the patient, liaising with surgeon or supervisor where there are unexpected results. 3.3 Document and communicate the results and updated treatment plan to the referrer and healthcare team.
4. Treatment planning and non-surgical management for non-traumatic musculoskeletal conditions	Excludes requests for specific interventions or other treatments that require medical sign-off where these are not covered under "standing order" or other agreed service/department authorisations.	4.1 Undertake treatment planning that prioritises the person's needs and preferences. 4.2 Refer to orthopaedic FSA, medical, or allied health services as appropriate for treatment of their condition. 4.3 Arrange and undertake follow-up clinical assessment and update the treatment plan according to the person's evolving needs. 4.4 Document and communicate the treatment plan and any updates and changes to the referrer and healthcare team for each clinical encounter. 4.5 Undertake discharge planning in collaboration with the person and healthcare team and complete discharge documentation including hand-over of care.
5. Refer for interventional procedures for non-traumatic musculoskeletal conditions.	Excludes requests for specific interventions that require medical sign-off where these are not covered under "standing order" or other agreed service/ department authorisations.	5.1 Refer for interventional procedures within local service specification and authorisation pathways. 5.2 Complete follow-up (in clinic, telehealth, or other method of follow-up) after interventional procedures and update, document, and communicate the updated management plan to referrer and wider healthcare team.

Note. EPA = entrustable professional activity; FSA = first specialist appointment.

[a] This sets out the conditions under which this EPA operates and its exclusions. All EPAs apply to adult patients (> 16 years old) being assessed by physiotherapists in orthopaedic subspecialty clinics including those with moderate–high complexity. All EPAs exclude paediatric patients, acute trauma, and those that fall outside the specific clinical subspecialty area, outside scope of physiotherapy practice, or outside the physiotherapists' area of training/expertise. The specific context and limitations included here are in addition to the general context and limitations

Table 4

Knowledge Requirements for Orthopaedic Triage and Assessment Roles

Topic	Specific knowledge requirements
Cultural	Te Tiriti o Waitangi. Māori and Pacific action plans. Role and scope of Māori and Pacific Island support teams. How to access and utilise interpreter services.
Serious pathologies	Red flags indicators for potentially serious pathologies including vascular, infection, neoplastic, neurologic, autoimmune/systemic inflammatory, trauma, mental health.
Medical conditions	Features of non-musculoskeletal pain. Clinical features, diagnostic, referral and management pathways for neurovascular claudication, rheumatology (rheumatoid arthritis, gout, spondyloarthritis, polymyalgia rheumatica, osteoporosis), endocrine conditions (diabetes), neurologic conditions, congenital conditions (connective tissue diseases), psychological conditions (clinical depression), oncological conditions. Implications of specific medical conditions and their relevance to surgical and anaesthetic, imaging, and interventional procedure risk.
Pain classifications	Mechanisms, features, objective clinical tests, and management pathways for specific pain classifications: nociceptive pain (including inflammatory pain), neuropathic pain, nociplastic pain.
Pharmacology	Therapeutic use and dosage, indications, contraindications, interactions, side effects and clinical relevance of common pain, anticoagulant, hypertensive, anti-inflammatory (steroidal and non-steroidal), antidepressant, rheumatologic, epilepsy, diabetes medications, and cancer therapies. Implications of specific medications for selection of surgical and non-surgical treatment interventions.
Specific musculoskeletal conditions	In-depth knowledge of specific traumatic, non-traumatic, and congenital musculoskeletal conditions in the sub-specialty area including prevalence, pathoaetiology, differential diagnosis, diagnostic criteria for (clinical and imaging criteria), natural history, prognosis, evidence-informed clinical pathways (continuum from non-surgical to surgical management), evidence-informed treatment, and outcomes.
Diagnostic investigations	Utility and utilisation, indications, contraindications, safety, limitations, procedure details, specific sequences and views, risks, adverse effects and complications of radiologic imaging (x-ray and ultrasound), high-tech imaging (MRI, CT, and bone scan), laboratory tests, diagnostic blocks, nerve conduction studies. Range of normal and abnormal test results and prevalence of population-specific abnormal findings.
Interprofessional practice	Knowledge of the indications, access criteria, referral pathways, and estimated wait times for orthopaedic FSA, medical specialty referral, physiotherapy (including specialist physiotherapy services), occupational therapy, pain service.
Prognostic factors	Knowledge of prognostic factors that may influence selection of diagnostic or treatment interventions and treatment outcome including how these are screened, identified, measured, and interpreted including biologic, cognitive, psychologic, social factors, and other health determinants.
Differential diagnosis	Pain mechanisms: criteria, screening tools and clinical features of nociceptive, neuropathic, nociplastic pain, complex regional pain syndrome. Diagnostic accuracy of clinical tests for specific pathoanatomic conditions and how accuracy is influenced by prevalence in specific populations and other factors. Clinical and imaging diagnostic criteria for specific conditions.
Non-surgical management	Evidence-informed and/or locally agreed clinical pathways for specific musculoskeletal conditions including indications, contraindications, benefits, risks, treatment techniques, adverse effects, timeframe and expected outcomes for medications, physiotherapy, interventional procedures (see below). Understand when all non-surgical management options have been completed and onward referral for orthopaedic assessment is indicated.

Topic	Specific knowledge requirements
Interventional procedures	Evidence and therapeutic use of interventions for specific conditions including indications, contraindications, procedure details, risks, benefits, adverse effects, complications, expected effects and timeframes, prognostic factors and outcomes for injectables, hydrodilatation, nerve blocks, radiofrequency ablation, fenestration/barbotage, aspiration.
Surgical management	Understand the role and timing of surgery within the continuum of care for specific musculoskeletal conditions and list indications for orthopaedic referral for specific musculoskeletal conditions within the sub-specialty area. Broadly describe common surgical techniques including surgical procedure, risks, adverse effects, and possible complications. Describe post-operative precautions, specific limitations, rehabilitation requirements, milestones, and timeframes. Describe prognostic factors, expected outcomes, and timeframes for common surgical procedures. Describe pre-optimisation requirements for common surgical procedures in the sub-specialty area.

Note. CT = computerised tomography; FSA, first specialist assessment; MRI, magnetic resonance imaging; NSAIDs = non-steroidal anti-inflammatory drugs.

Table 5

Attitudes and Behaviours that Enable Trust

Quality	Description
Agency	Proactive towards work, team, safety, and personal development. Takes positive action when appropriate within boundaries of scope and local service authorisations. This must be balanced with overconfidence.
Capability	Task-specific knowledge, skills, and experience. Situational awareness.
Conscientiousness	Thoroughness and consistency of actions with attention to detail. Takes a serious approach to managing risk.
Responsibility	Takes responsibility and accountability for decisions and actions. Ensures continuity of patient care in their absence. Identifies and acknowledges errors and lapses by self and others and initiates action. Acts upon urgent needs of care if others are not available
Reliability	Predictable and consistent behaviour. Takes responsibility and accountability for decisions and actions. Dependable. Punctual.
Integrity	Honest, providing accurate descriptions of observations or encounters including what they did and why and what they should have done/not done. Benevolent. Patient centred.
Humility	Recognises limits (personal and professional). Willing to ask for help when needed. Receptive to constructive feedback.
Collegial and respectful interprofessional relationships	Ability to develop collegial and effective working relationships with other medical and health professionals. Respects the expertise of other health professionals and communicates in a collegial manner.
Organisation and time management	Organised with a systematic approach to delivering and monitoring care. Able to prioritise tasks. Completes tasks including clinical assessment, documentation, and referrals within acceptable time-frames.

Table 6

Entrustable Professional Activities Competency Matrix

Competencies	EPA 1	EPA 2	EPA 3	EPA 4	EPA 5
	Referral triage and management	Clinical assessment	Refer for diagnostic investigations	Treatment planning and management	Refer for interventional procedures
Physiotherapy practitioner	1.1, 1.2	1.1, 1.2	1.1	1.1, 1.2,1.3, 1.4	1.2, 1.3
Professional and ethical practitioner	2.1	2.1	2.1	2.1	2.1
Communication	3.2	3.2	3.1, 3.2	3.1, 3.2	3.1, 3.2
Reflective practice and self-directed learner	4.5	4.5	4.4, 4.5	4.5	4.4, 4.5
Collaborator			5.2	5.1, 5.2	5.2
Educator				6.1	
Manager/leader		7.1		7.1	

Note. These are the physiotherapy competencies that should be achieved in order to reach entrustment Level 4. A full description of these competencies can be provided on request to the corresponding author.

Assessment

The responsibility for EPA assessment may be shared or delegated according to availability of appropriately qualified personnel and according to local time and personnel resources. Initially, while there is a small number of physiotherapists in these roles, the majority of this responsibility will likely fall to the senior medical officer (SMO) responsible for the subspecialty service. As the roles become more established with a greater number of physiotherapists achieving the required level of training and competency, assessment responsibilities may be delegated accordingly.

Assessment of the EPAs is typically framed in the context of supervision. EPA-based assessment tracks the progression of competence for each EPA resulting in summative entrustment decisions to act according to a specified level of supervision. The level of mastery of an EPA is reflected by five stages of decreasing supervision requirements (Mulder et al., 2010; ten Cate & Scheele, 2007).

- Level 1 – no task execution (trainee observes only).
- Level 2 – task execution under direct supervision on site (direct supervision).
- Level 3 – task execution with supervision quickly available on call (indirect supervision).
- Level 4 – unsupervised practice (distant supervision with post-hoc or virtual checking available).
- Level 5 – provide supervision to junior trainees.

Entrustment decisions regarding the level of supervision required are based upon the following questions (ten Cate et al., 2015):

- Do I need to assist this trainee?
- Can I leave the room/department to come back later?
- Will I trust the information in the electronic patient record to be adequate and sufficient when I see it tomorrow?

EPAs are entrusted when the supervisor is confident the physiotherapist:

1. demonstrates the knowledge, skills, and attitudes required of the task
2. knows when to ask for help and
3. can be trusted to seek assistance in a timely manner.

By the end of the "training" period the physiotherapist should be able to perform each EPA with minimal/distant supervision (Level 4). The EPA competency matrix provides an overview of essential competencies that should be present before trainees may be trusted to act unsupervised or with only indirect supervision (Table 6).

Mandated assessment procedures were not included in the development of this framework as it is likely that local time and personnel resources will vary. However, progress can be assessed using a range of formative and summative assessment methods. Such methods include, but are not limited to, completion of mandatory departmental training (e.g., radiology, health and

safety, cultural), minimum of weekly direct observation, weekly case-presentations and case-based discussion, quarterly clinical audits of medical notes and referrals, and diagnostic and management audits against supervisor decisions. The number of observations or encounters required to constitute the basis for entrustment for a specific EPA is at the discretion of the supervising clinician or training team and dependent on progress of the individual.

Supervision

Until these roles become more established, with enough physiotherapists practising at Level 4 or 5 with the required expertise to supervise others, it is likely the majority of supervision will fall to the SMO. The experience of our working group is that this does not place a significant additional burden on the SMO as they are frequently training registrars and junior doctors, which is viewed as a similar process by many of the surgeons.

As more physiotherapists take on these roles and progress to reach higher levels of entrustment, supervision and training may be shared among the wider team. This may include other physiotherapists, or other allied health professionals who are working in OTA roles who have, themselves, demonstrated the required level of expertise to enable supervision of other practitioners. Supervision requirements for individual practitioners will depend upon the entry level of individual physiotherapists and may be high initially, but will likely reduce as competency and confidence increase.

Training period

The amount of time required for physiotherapists to reach entrustment may vary significantly due to the diverse professional profiles and non-linear progression of practitioners. The physiotherapists' entry-level knowledge, clinical skills, and experience; the number of hours allocated to the role; the availability of supervisors; and opportunities for feedback and development also influence the rate of progression. Those with lesser entry-level experience working in part-time roles are likely to take longer to achieve entrustment than those with more advanced clinical skills who are working full time.

It is the experience of the group that, based on a role with a full-time equivalent of 0.2 (approx. 1 day per week) where the SMO is available for direct and indirect supervision and feedback at every clinic, a physiotherapist with a minimum of 4–5 years of experience in musculoskeletal physiotherapy may take a minimum of 2 years to reach Level 4 entrustment. This also assumes a component of self-directed learning and professional development.

IMPLICATIONS

The Orthopaedic Physiotherapy Practitioner (OPP) roles, first officially described in 2018 (Cadogan, 2018) have evolved in response to individual organisational needs (Naik, 2021). Stakeholders are now exploring the possibilities of developing these roles nationwide as a solution to the country's musculoskeletal healthcare needs. OTA represents one role physiotherapists can fulfil to help improve timely access to musculoskeletal care.

The EPA framework is the first step in providing physiotherapists and orthopaedic consultants with clarity on the activities and associated competencies required for these roles. This will help to guide the professional development of physiotherapists within elective orthopaedic departments towards the capability to act safely and independently with limited supervision within the assigned clinical subspecialty areas (e.g., spine, shoulder, hip/knee service). In this section we discuss some of the implications, considerations, and perspectives related to the use of the EPA framework in OTA roles in New Zealand.

Definition of triage

As OTA roles expand in New Zealand, a clear and consistent definition of triage is needed to provide clarity for funders, employers, clinicians, regulators, and educators. In elective settings, the triage, or referrals without patient contact, requires a different skillset from the "triage" of patients during a clinical assessment. Paper-based triage of referrals often involves identifying and managing serious pathologies, organising appropriate investigations, and urgency of escalation and referral. In contrast, in-person clinical assessment and "triage" for hip and knee osteoarthritis typically focuses on evaluating the severity of symptoms and determining the need for surgical intervention. These differences highlight the need for clear operational definitions for "triage" in different contexts including the source of referrals, specific conditions, scope of practice and competency of the triaging clinician, location of triage (within orthopaedic outpatients or the community setting), and purpose and outcome of triage (e.g., for diagnostic assessment or treatment or surgical prioritisation).

Relationship to other New Zealand competency frameworks

The level of competence required for OTA roles is aligned at the level of the PBNZ Advanced Practice Physiotherapist (Physiotherapy Board of New Zealand, 2022a). Physiotherapists working at this level are expected to manage and lead episodes of care, acting independently in complex situations within scope of practice, demonstrating advanced clinical reasoning, influencing health service delivery with involvement in mentoring, supervision, teaching, and research (Physiotherapy Board of New Zealand, 2024). However, registration under the advanced practice physiotherapy scope of practice or even specialist scope of practice with the PBNZ does not equate to nor imply competence in OTA roles and vice versa. In addition, national agencies such as Health New Zealand Te Whatu Ora may define specific roles for physiotherapists under titles such as advanced clinical practitioner/advanced practitioner or consultant physiotherapist. However, assignment of these titles and designated roles does not equate to nor imply competence in OTA roles.

Operational perspectives

The intended use for the EPA framework is to provide support for rapid implementation of "on-the-job' training of physiotherapists in OTA roles. This framework includes much detail by necessity, but for the SMOs working in busy clinics, often responsible for junior doctors, registrars, fellows, as well as training OTA practitioners and their own caseload, simplified documentation is likely to be required to streamline

the supervision process and assessment of entrustment level. A summary document of key knowledge, skills, and behaviours in specific clinical subspecialty areas may assist SMOs in identifying gaps and focusing learning opportunities for individual physiotherapists.

Physiotherapy education

Physiotherapists are well suited to working in OTA roles. Physiotherapy scope of practice includes the ability to practise autonomously including diagnostic decision-making and patient management (Marks et al., 2017). Physiotherapy undergraduate training typically includes a strong musculoskeletal focus and many who are working in OTA roles also have postgraduate musculoskeletal qualifications including master's degrees. However, currently no comprehensive clinical programmes exist that combine the knowledge, skill, and clinical supervision requirements needed by physiotherapists specifically for these roles. In addition, some clinical activities including triage, diagnostic investigations, and patient management that present a higher level of clinical risk, sit within the PBNZs "defined field" of practice requiring additional training and supervision to ensure safety.

At present, the majority of physiotherapists working in these OTA roles rely on a combination of on-the-job training under the guidance of orthopaedic surgeons, the availability of relevant online and practical courses, and self-directed learning to acquire this expertise. Advanced practice musculoskeletal training programmes have been developed with success in other countries (Stevenson et al., 2020), with key elements of success including the bespoke and flexible nature of the programme, and mentoring (Stevenson et al., 2020). At present no structured training programmes exist in New Zealand. In the absence of a role-specific training programme, the EPA framework clearly sets out the knowledge and skill requirements enabling individual clinicians and their supervisors to identify knowledge and skill gaps from which individualised learning plans can be developed.

In addition to developing clinical skills, entrustment decisions integrate assessment of the trainee's understanding of autonomy, clinical risk management, awareness of boundaries, when to seek assistance, and escalation points that are essential in trusting trainees with specific clinical tasks. The EPA framework thus integrates multiple competencies under specified conditions, identifying specific knowledge, skills, and attributes, and provides suggestions for assessment methods while allowing flexibility for training processes and timeframes. Entrustable professional activities represent building blocks for the trainee, and they provide clear assessment goals for the trainer.

Reported benefits of EPA models include providing an integrated learning approach and enabling fundamental knowledge and skills to be learned at the same time as trainees are introduced to patient care (University of Otago, 2024). The ability to learn "on the job" thus allows immediate practical application of new knowledge, repeated opportunities for skill acquisition, and immediate feedback. It also 1) provides exposure to interprofessional practice and supervision; 2) is cost-effective for both trainee and the department by not requiring extended periods of study leave outside the department; 3) fosters a culture of continuous learning; 4) provides a flexible learning environment; and 5) meets governance requirements for practising in a defined field of interest. The EPA framework thus represents an initial step to facilitate the safe and efficient upskilling of suitable trainees at a time of rapid implementation of these roles.

Clinical governance

The working group's goal was primarily to identify key activities and associated competencies to establish a clear set of EPAs for use by SMOs and physiotherapists working in OTA roles. There are additional and important training, clinical governance, and pastoral care requirements in OTA roles for safety, efficacy, and performance monitoring purposes. These requirements include evaluating patient experience, clinical audits, risk management, adverse reaction register, clinical outcome monitoring, staff development, mentoring and pastoral care, IT management, and research and development. It was beyond the working group's scope to establish operational guidelines for these aspects of the OTA role. As these roles expand over coming years, further guidance on these areas will be required. The EPAs and associated competencies presented here are intended to provide a possible foundation from which this can evolve.

Conceptual development

The EPA framework presented here is designed specifically for physiotherapists engaged in OTA roles within elective orthopaedic departments within clinical subspecialty areas. As these roles continue to evolve, the framework could be expanded and adapted to integrate additional orthopaedic departmental activities that can be performed by suitably trained physiotherapists, including postoperative reviews and administering injection procedures. At present, this EPA framework does not include any activities that currently fall outside the physiotherapy scope of practice in New Zealand, such as prescribing medications or performing injections. A small number of physiotherapists in New Zealand are administering injections under the defined field of interest scope of practice, and these activities are routinely being performed by physiotherapists in other countries to further ease the burden on surgeon and interventional resources. In time, EPAs could be developed specifically for these activities supported by standing orders within the department and added to this EPA framework.

Other uses and applications of this framework extend to physiotherapists working in other advanced practice musculoskeletal settings, such as first contact roles, other musculoskeletal triage roles, and emergency departments. Many of the EPAs in the orthopaedic framework are readily transferable to these settings, where they can be adopted or modified, and other EPAs added to develop specific EPA frameworks for each clinical role and healthcare setting. This framework may also be adapted for physiotherapists working in advanced practice roles across other clinical specialties including women's health, paediatrics, cardiorespiratory, and rheumatology. By identifying knowledge and skill requirements, the EPAs may also serve to inform development of educational curricula for advanced practice roles in New Zealand.

Limitations

Care should be taken not to extrapolate and apply this EPA framework beyond its intended scope, setting, context, and inherent limitations. The EPA framework does not include milestones that are typically included in EPA frameworks. This was a deliberate decision, recognising the diverse professional profiles of these practitioners, suggesting that the progression towards entrustment in different tasks and domains may be non-linear, necessitating a flexible approach within the framework. This framework, in its initial form, is grounded in the collective expertise of the working group and insights from the New Zealand orthopaedic community. Its application has not yet been widespread and external validation is needed. The document does not intend to impose mandates on the clinical governance aspects of implementation such as supervision and assessment requirements and timeframes. While this may require further work, flexibility must be retained to serve the time and personnel resources in local departments. Post-implementation, it is imperative to periodically review and update the framework to accommodate refinements based on user feedback and the evolving nature of these roles.

CONCLUSION

The EPA framework, developed in collaboration with the New Zealand Orthopaedic Association provides New Zealand physiotherapists and their supervising clinicians with a tool to guide the implementation, training, and capability development of physiotherapists working in OTA roles within elective orthopaedic departments in specific clinical subspecialty areas in New Zealand. The EPA framework may be expanded to include other clinical activities performed by physiotherapists in orthopaedic departments and may serve as a template for physiotherapists engaged in similar advanced practice roles in other areas of healthcare.

KEY POINTS

1. The EPA framework: Is specifically designed for physiotherapists working in orthopaedic triage and assessment roles within sub-specialty services in elective orthopaedic departments in New Zealand.
2. Clinical capability: This provides a practical framework for the development of capability and entrustment for specific clinical activities with minimal/no supervision.
3. Adaptability of the framework: The framework allows for flexibility and adaptability in training and skill development and provides scope for the addition of important or high-risk tasks, and may have transferable use across other advanced practice physiotherapy roles.
4. Continual evaluation and update: The framework anticipates regular updates and revisions based on practical application and feedback, ensuring it remains relevant and effective in evolving clinical settings.

DISCLOSURES

No funding was obtained for this project. There are no conflicts of interest that may be perceived to interfere with or bias this study.

PERMISSIONS

This project did not require ethical approval as per institutional and national guidelines. The research did not involve any experimental research on humans or animals. This study exclusively involved the theoretical development of a professional framework and associated competencies. No proprietary or confidential information was utilised in this process.

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Conceptualisation and project administration, AC; validation, LN; methodology and formal analysis, AC, LN, MB, MZ, PT, and KC; writing – original draft preparation, AC, LN, MB, MZ, PT, and KC; writing – review and editing, AC and LN.

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