الهيئة السعودية للتخصصات الصحية
Saudi Commission for Health Specialties

Pediatric Physiotherapy


بسم الله الرحمن الرحيم

PREFACE

- The primary goal of this document is to enrich the training experience of postgraduate residents by outlining the learning objectives to become independent and competent future practitioners.
- This curriculum may contain sections outlining some regulations of training; however, such regulations need to be sought from the "General Bylaws" and "Executive Policies" for training published by the Saudi Commission for Health Specialties (SCFHS), which can be accessed online through the official SCFHS website. In the event of a discrepancy in regulation statements, the one stated in the most updated bylaws and executive policies will apply.
- As this curriculum is subject to periodic refinements, please refer to the electronic version posted online for the most updated edition at www.scfhs.org.sa.

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II. COPYRIGHT STATEMENTS

We would also like to acknowledge that the CanMEDS framework is a copyright of the Royal College of Physicians and Surgeons of Canada, and many of the description's competencies have been acquired from their resources (Please refer to: CanMEDS 2015 physician competency framework; Frank JR, Snell L, Sherbino J, editors. CanMEDS 2015 Physician Competency Framework. Ottawa: Royal College of Physicians and Surgeons of Canada; 2015.).

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III. FOREWORD

The Pediatric Physical Therapy Board curriculum development team acknowledges the valuable contributions and feedback from scientific committee members in the development of this program. We extend special appreciation and gratitude to all the members who have been pivotal in the completion of this booklet, especially the Curriculum Group, Curriculum Specialists, and Scientific Council. We also acknowledge that the CanMEDs framework is a copyright of the Royal College of Physicians and Surgeons of Canada, and many of the descriptions' competencies have been acquired from their resources.

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V. INTRODUCTION

1. Context of Practice

In the Kingdom of Saudi Arabia, most of the population is made up of young people and children, who are 67% of the total in 2020 (GASTAT, 2020). Young people and children are important for every society's future. Therefore, the health system in Saudi Arabia tries to improve the health services for children and youth by giving them suitable health care when they have health issues or get sick in their lives. Physiotherapy is a part of health that supports healthcare systems.

Physical therapy (PT) practice, knowledge, skills, and attitudes have expanded broadly over the past few decades. Practice opportunities have expanded beyond the typical PT practices and clinical opportunities. A pediatric physical therapist (PPT) improves the child's function and independence, who suffers from injuries and medical conditions. PTs in paediatrics need to be fully trained and work closely with the medical team and family to implement individualized intervention programs. In terms of the clinical setting, body of knowledge development, and academic context, specialization is, therefore, essential to the physical therapy profession.

Currently, many Saudi universities provide master's programs in physical therapy that qualify postgraduates as senior physical therapists in specialty. However, postgraduate programs to qualify as consultants (PhD programs) remain very limited. In light of the diverse needs of the healthcare system in Saudi Arabia, the Saudi Commission for Health Specialties has recognized the importance of advanced clinical degrees in pediatric PT. Clinical

postgraduate training programs in pediatric PT can assist clinicians in developing their skills. Furthermore, clinical training programs for pediatric PT have not yet existed in Saudi Arabia. The lack of advanced and specialized clinical training programs in pediatric PT may limit the local availability of evidence-based healthcare services.

In 2021, the Saudi Commission for Health Specialties took the initiative to prepare and form a curriculum development committee to develop a program for the Saudi Board in Pediatric Physical Therapy. The program is intended for physical therapists who want to promote their leadership, research skills, and clinical expertise at the graduate level in different clinical settings to be consultants in pediatric physical therapy. This program is a full-time three-year program adapting a high-level competency-based educational approach, as this could support professional training based on recent scientific evidence, in order to develop different competencies required for a clinician expert in pediatric physical therapy. The core value of the program is to expose residents to different clinical conditions in different clinical settings in an educational environment.

PPTs promote quality health care by providing healthy lifestyle choices for children and by preventing and treating various health conditions in a variety of settings. In addition, the use and employment of assessment and rehabilitation methods of pediatric physical therapy require a high level of education and skill for therapists to help the child be independent and self-reliant in performing their daily life activities and play alongside family, friends, and others, as well as take part in society. Consequently, the need for pediatric physical therapy consultants in this field has emerged as a necessity to improve the services provided to this age group.

- Vision to be recognized as an expert in pediatric physical therapy, known for leadership, clinical skills, education level, and mentorship.

- **Mission** This program is designed to provide residents with advanced education in the evaluation and management of pediatric physical therapy conditions. Through Board s, clinicians can develop skill sets that enable them to provide professional management and consultation with pediatric patients and their families.
- **Objectives** The Pediatric Physical Therapy Board program aims to provide competent and highly skilled pediatric physical therapists who are able to:
  1- Display competence in patient-centered clinical practice and enhancing patients' outcomes of those with different pediatric conditions.
  2- Demonstrate effective ability to mentor others (interns or peers) in pediatric physical therapy.
  3- Show high standards of ethical, honorable behavior and professionalism.
  4- Contribute to the profession of pediatric physical therapy through evidence-based practice and conducting scientific research.

2. 2. Goals and Responsibilities of Curriculum Implementation

Ultimately, this curriculum seeks to guide trainees to become competent in their respective specialties. Accordingly, this goal requires a significant amount of effort and coordination from all the stakeholders involved in postgraduate training. As "adult learners," trainees must be proactive, fully engaged, and exhibit the following: a careful understanding of learning objectives, self-directed learning, problem solving, an eagerness to apply learning by means of reflective practice from feedback and formative assessment, and self-awareness and willingness to ask for support when needed. The Program Director plays a vital role in ensuring the successful implementation of this curriculum. Moreover, training committee members,

particularly the program administrator and chief residents, have a significant impact on program implementation. Trainees should be called upon to share responsibility in curriculum implementation. The Saudi Commission for Health Specialties (SCFHS) applies the best models of training governance to achieve the highest quality of training. Additionally, academic affairs in training centres and the regional supervisory training committee play major roles in training supervision and implementation. The Specialty Scientific Council will guarantee that the content of this curriculum is constantly updated to match the highest standards in postgraduate education for each trainee's specialty.

VI. ABBREVIATIONS USED IN THIS DOCUMENT

Abbreviation	Description
CBE	Competency-Based Education
SCFHS	Saudi Commission for Health Specialties
R & D	Research and Development
GASTAT	The General Authority for Statistics
PT	Physical Therapist
PPT	Pediatric Physical Therapist
SBPPT	Saudi Board for Pediatric Physical Therapy
NICU	Neonatal Intensive Care Unit
PICU	Pediatric Intensive Care Unit
ROM	Range of Motion
TBL	Team-Based Learning
ME	Medical Expert
Com	Communicator
Col	Collaborator
L	Leader

HA	Health Advocate
P	Professional
S	Scholar

VII. PROGRAM ENTRY REQUIREMENTS

Please refer to the updated executive policy of SCFHS on admission and registration.

Website: www.scfhs.org.sa

VIII. LEARNING AND COMPETENCIES

1. Introduction to Learning Outcomes and Competency-Based Education

Training should be guided by well-defined "learning objectives" that are driven by targeted "learning outcomes" of a particular program to serve specific specialty needs. Learning outcomes are supposed to reflect the professional "competencies" and tasks that are aimed to be "entrusted" to trainees upon graduation. This will ensure that graduates meet the expected demands of the healthcare system and patient care in relation to their specialty. Competency-based education (CBE) is an approach of "adult-learning" that is based on achieving pre-defined, fine-grained, and well-paced learning objectives that are derived from complex professional competencies.

Professional competencies related to health care are usually complex and contain a mixture of multiple learning domains (knowledge, skills, and attitude). CBE is expected to change the traditional method of postgraduate education. For instance, the time of training, though a precious resource, should not be considered as a proxy for competence (e.g., time of rotation in certain hospital areas is not the primary marker of competence achievement). Furthermore, CBE emphasizes the critical role of informed judgment in learners' competency progress, which is based on a staged and formative assessment that is driven by multiple workplace-based observations. Several CBE models have been developed for postgraduate

education in healthcare (e.g., CanMEDs by the Royal College of Physicians and Surgeons of Canada (RCPSC), the CBME-Competency model by the Accreditation Council for Graduate Medical Education (ACGME), Tomorrow's Doctor in the UK, and multiple others). The following concepts enhance the implementation of CBE in this curriculum:

- **Competency:** Competency is a cognitive construct that assesses the potential to perform efficiently in a given situation based on the standards of the profession. Professional roles (e.g., experts, advocates, communicators, leaders, scholars, collaborators, and professionals) are used to define competency roles in order to make them amenable to learning and assessment.
- **Milestones:** Milestones are the stages of the developmental journey throughout the competency continuum. Trainees throughout their learning journey, from junior to senior levels, will be assisted in transforming from being (novice/supervised) to (master/unsupervised) practitioners. This should not undermine the role of supervisory/regulatory bodies toward malpractice of independent practitioners. Milestones are expected to enhance the learning process by pacing training/assessment to match the developmental level of the trainees (junior vs. senior).
- **Learning domains:** Whenever possible, efforts should be directed to annotate the learning outcomes with the corresponding domain (K=Knowledge, S=Skills, and A=Attitude). Trainees may have more than one annotation for a given learning outcome.
- **Content-area categorization:** It is advisable to categorize learning outcomes into a broad content area related to the practice of the profession. For example, diagnostic versus therapeutic, simple versus complex, and urgent versus chronic.
- Trainees are expected to progress from the novice to the master's level in a certain set of professional competencies. The SCFHS endorsed

CanMEDs to articulate professional competencies. The curriculum applies the principles of competency –based medical education. CanMEDs represent a globally accepted framework that outlines the competency roles. The CanMEds 2015/ACGME 2018 framework" is adopted in this section.

This reference is an example of the general outline of CanMED competency: (Frank JR, Snell L, Sherbino J, editors. CanMEDs 2015 Physician Competency Framework. Ottawa: Royal College of Physicians and Surgeons of Canada 2015).

2. Program Durations

The duration of the program is three years, the first and second years (Junior level) covers three 4-month mandatory rounds and the third-year (senior level) cover four 2-month mandatory rounds and one 3-month elective rounds (chose one of two available rounds), summing into eleven rounds. Throughout the program, residents will rotate between different training centres based on availability and suitability. As a result, the rotation system can be modified.

3. Program Rotations

Training Year	Mandatory core rotations			Elective rotations			
	Rotation name	Duration	Setting	Rotation name	Duration	Setting	vacation
Year 1	• Pediatric neurological physical therapy • Pediatric musculoskeletal physical therapy • Pediatric orthotic, prosthetic, and assistive technology	4 months 4 months 3 months	outpatient outpatient outpatient				1 month (4weeks)
Year 2	• Pediatric neurological physical therapy • Pediatric musculoskeletal physical therapy • Physical therapy in early intervention	4 months 4 months 3 months	In/outpatient In/outpatient Early intervention clinic				1 month (4weeks)

Training Year	Mandatory core rotations			Elective rotations			vacation
	Rotation name	Duration	Setting	Rotation name	Duration	Setting	
Year 3	• Physical therapy in Neonatal and pediatric intensive care unit (NICU/PICU) • Cardiopulmonary physical therapy for pediatric patients • Rehabilitation of children with burns/wounds • Pediatric oncology rehabilitation	2 months 2 months 2 months 2 months	NICU/PICU In/outpatient In/outpatient In/outpatient	Resident can enroll to only one Elective round: • Pediatric sport injury physical therapy Or • Physical therapy in the special educational environment	3 months		1 month (4weeks)

Mandatory core rotation: A set of rotations that represents program core components and is mandatory.

Elective rotation: A set of rotations related to the specialty, as determined by ientific council/committee, and the trainee is required to perform one

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Rotations' objectives:

Rotation	Duration	Training settings/sites	Objectives	competency roles**
1. Pediatric Neurological physical therapy (Year 1)	4 months	Outpatient	1. Implement proper examination including history taking, body system review and tests and measures that are appropriate for children with neurological conditions based on the available evidence-based practice in an outpatient setting **(K, S).** 2. Interpret the examination findings to evaluate the patient based on available evidence using International Classification of Function, Disability and Health for Children and Youth (ICF-CY) and establish physical therapy diagnosis **(K, S).** 3. Screen for red and yellow flags and decide when to refer to another medical specialty **(K, S).** 4. Apply the correct differential diagnosis process to confirm the diagnoses for children refer to neurological physical therapy outpatient setting **(S).** 5. Design suitable intervention plans for productive patient outcomes that include duration and frequency of treatment and any modification required to reach the goals and discharge plans **(K, S)** 6. Apply therapy modalities, techniques, and exercise programs **(S).** 7. Integrate knowledge of human motor development with clinical decision-making into the practice **(K, S).** 8. Integrate patient education as crucial to the discipline of pediatric physical therapy and as an essential part of patient intervention to maintain health **(S, A).**	ME Com Col L HA P S
2. Pediatric	4 months	Outpatient	Implement proper examination including history taking, body system review and tests and measures that are appropriate	ME Com Col

Rotation	Duration	Training settings/sites	Objectives	competency roles**
			for children with musculoskeletal conditions based on the available evidence-based practice in an outpatient setting. Interpret the examination findings to evaluate the patient based on available evidence using International Classification of Function, Disability and Health for Children and Youth (ICF-CY) and establish physical therapy diagnosis. Design suitable intervention plans for productive patient outcomes that include duration and frequency of treatment and any modification required to reach the goals and discharge plans. Screen for red and yellow flags and decide when to refer to another medical specialty. Apply the correct differential diagnosis process to confirm the diagnoses for children refer to musculoskeletal physical therapy outpatient setting. Design suitable intervention plans for productive patient outcomes that include duration and frequency of treatment and any modification required to reach the goals and discharge plans. Apply therapy modalities, techniques, and exercise programs. Educate patients/family about possible risks, contra indications, appropriate approaches, and safety during rehabilitation programs.	L HA P S

Rotation	Duration	Training settings/sites	Objectives	competency roles**
3. Pediatric orthotic, prosthetic, and assistive technology (Year 1)	3 months	Outpatient	1. Implement proper examination and intervention plans for children who have part or all of limbs missing, or children who need support, correction, or aid in the functions of their body parts with neurological or musculoskeletal conditions (K, S). 2. Recognize the knowledge and theory of the prosthetics and orthotics techniques for children with disabilities (K). 3. Apply effective clinical decision making and ability to solve different problems related to the application of prosthetics & orthotics (S). 4. Provide ethical and patient-centered care experiences (A). 5. Educate pediatric patients and their guardians regarding the patient's condition to improve their quality-of-life S. 6. Be effectively involved in interprofessional communication (verbal and nonverbal) that positively affects patient outcomes (A).	ME Com Col L HA P S

Rotation	Duration	Training settings/sites	Objectives	competency roles**
4. Pediatric neurological physical therapy (Year 2)	4 months	In/Outpatient	1. Implement proper examination including history taking, body system review and tests and measures that are appropriate for children with neurological conditions based on the available evidence-based practice focusing on inpatient pediatric environment (K, S). 2. Interpret the examination findings to evaluate the patient based on available evidence using the International Classification of Function, Disability and Health for Children and Youth (ICF-CY) and establish physical therapy diagnosis (K, S). 3. Screen for red and yellow flags and decide when to refer to another medical specialty (K, S). 4. Design suitable intervention plans for productive patient outcomes that include duration and frequency of treatment and any modification required to reach the goals and discharge plans (S). 5. Apply therapy modalities, techniques, and exercise programs (S). 6. Empower the patient and their guardians in decision-making process (A). 7. Be effectively involved in interprofessional Communication (verbal and nonverbal) that positively affects patient outcomes within pediatric neurological physical therapy (A). 8. Coordinate effective extended post-discharge care and home health care and remote rehabilitation follow-ups (S).	ME Com Col L HA P S
5. Pediatric musculoskel	4 months	In/Outpatient	1- Implement proper examination including history taking, body system review and tests and measures that are appropriate for children with musculoskeletal conditions	ME Com Col L

Rotation	Duration	Training settings/sites	Objectives	competency roles**
			based on the available evidence-based practice focusing in inpatient pediatric environment (K, S) 2- Interpret the examination findings to evaluate the patient based on available evidence using the International Classification of Function, Disability and Health for Children and Youth (ICF-CY) and establish physical therapy diagnosis (K, S). 3- Screen for red and yellow flags and decide when to refer to another medical specialty (K, S). 4- Design suitable intervention plans for productive patient outcomes that include duration and frequency of treatment and any modification required to reach the goals and discharge plans (K, S). 5- Apply therapy modalities, techniques, and exercise programs (S). 6- Be effectively involved in interprofessional Communication (verbal and nonverbal) that positively affects patient outcomes within pediatric neurological physical therapy (A). 7- Apply therapy modalities, techniques, and exercise programs (S). 8- Coordinate effective extended post-discharge care and home health care and remote rehabilitation follow-ups (A).	HA P S
6. Physical therapy in early intervention	3 months	Early intervention clinic	1. Provide a high standard of patient management including assessment, evaluation, intervention, and discharge plan to improve participation and independence in activities across the lifespan for children aged birth to three years (K, S).	ME Com Col L HA P

Rotation	Duration	Training settings/sites	Objectives	competency roles**
			2. Improve the development of children with disabilities or at high-risk for disability and minimize their potential for developmental delay (K, S). 3. Participate effectively with the interdisciplinary team to meet the needs of children with disabilities (S, A). 4. Communicate and collaborate effectively with family members and other healthcare professionals during the process of intervention (A). 5. Encourage patients and their guardians to create their own goals and evaluate their own improvement and take equal responsibility for the success or failure of the intervention program (A).	S
7. Physical therapy in Neonatal and pediatric intensive care unit (NICU/PICU) (Year 3)	2 months	Inpatient	1. Screen patients in NICU and PICU to assess the needs for physical therapy (K, S). 2. Implement proper examination and interpret findings based on the available evidence-based practice in NICU/PICU setting (K, S). 3. Implement a plan to prevent complications of prematurity in multiple systems (S). 4. Design suitable intervention and discharge plans for productive patient outcomes and prevent complications in collaboration with the family and medical team (K, S). 5. Develop a physical therapy risk management plan and educate the patient's family about the medical condition (K, S).	ME Com Col L HA P S

Rotation	Duration	Training settings/sites	Objectives	competency roles**
8. Cardiopulmonary physical therapy for pediatric patients. (Year 3)	2 months	In/Outpatient	1. Implement proper examination including history taking, body system review and tests and measures that are appropriate for children with cardiopulmonary conditions based on the available evidence-based practice in in/outpatient setting. 2. Interpret the examination findings to evaluate the patient based on available evidence using the International Classification of Function, Disability and Health for Children and Youth (ICF-CY) and establish physical therapy diagnosis. 3. Screen for red and yellow flags and decide when to refer to another medical specialty. 4. Design suitable intervention plans for productive patient outcomes that include duration and frequency of treatment and any modification required to reach the goals and discharge plans. 5. Value the responsibility of the pediatric physical therapist to educate the patient and their guardians about cardiopulmonary conditions. 6. Be effectively involved in interprofessional communication (verbal and nonverbal) that positively affect patient outcomes within pediatric cardiopulmonary physical therapy.	ME Com Col L HA P S

Rotation	Duration	Training settings/sites	Objectives	competency roles**
9. Rehabilitation of children with burns/wounds. (Year 3)	2 months	In/Outpatient	1. Implement proper examination including history taking, body system review and tests and measures that are appropriate for children with burns or wounds based on the available evidence-based practice in in/outpatient setting **(K, S).** 2. Interpret the examination findings to evaluate the patient based on available evidence using the International Classification of Function, Disability and Health for Children and Youth (ICF-CY) and establish physical therapy diagnosis **(K, S).** 3. Design suitable intervention plans for productive patient outcomes that include duration and frequency of treatment and any modification required to reach the goals and discharge plans **(K, S).** 4. Be effectively involved in interprofessional communication (verbal and nonverbal communication) that positively affect patient outcomes within pediatric physical therapy **(A).**	ME Com Col L HA P S

Rotation	Duration	Training settings/sites	Objectives	competency roles**
10. Pediatric oncology physical therapy. (Year 3)	2 months	In/Outpatient	1. Implement proper examination including history taking, body system review and tests and measures that are appropriate for children with oncological conditions based on the available evidence-based practice in in/out-patient settings **(K, S)**. 2. Interpret the examination findings to evaluate the patient based on available evidence using the International Classification of Function, Disability and Health for Children and Youth (ICF-CY) and establish physical therapy diagnosis **(K, S)**. 3. Screen for red and yellow flags and decide when to refer to another medical specialty **(K, S)**. 4. Design suitable intervention plans for productive patient outcomes that include duration and frequency of treatment and any modification required to reach the goals and discharge plans **(K, S)**. 5. Value the responsibility of the pediatric physical therapist to educate the patient and their guardians about the oncology condition **(A)**. 6. Be effectively involved in interprofessional communication (verbal and nonverbal) that positively affect patient outcomes within pediatric oncology physical therapy **(A)**.	ME Com Col L HA P S
Elective rotations 3 months duration (residents will choose one rotation)				
11.Pediatric sport injury		In/Outpatient	1. Identify proper examination including history taking, body system review and tests and measures that are appropriate for children with sport injury based on the available evidence-based practice outpatient clinic and sport centers **(K, S)**.	ME Com Col L HA

Rotation	Duration	Training settings/sites	Objectives	competency roles**
			2. Interpret the examination findings to evaluate the patient based on available evidence using the International Classification of Function, Disability and Health for Children and Youth (ICF-CY) and establish physical therapy diagnosis **(K, S).** 3. Screen for red and yellow flags and decide when to refer to another medical specialty **(K, S).** 4. Design suitable intervention plans for productive patient outcomes that include duration and frequency of treatment and any modification required to reach the goals and discharge plans **(S).** 5. Assess the patient's and their guardians' educational needs, willingness to learn and understanding of information **(S, A).** 6. Be effectively involved in interprofessional communication (verbal and nonverbal) that positively affect patient outcomes within pediatric sport injury physical therapy **(A).**	P S
12.Physical therapy in the special educational environment		Special Schools	1. Design and implement physical therapy screening, assessment, evaluation, and interventions for children with disability in special education school sitting **(K, S).** 2. Develop strategies to improve student's independence and physical participation during the school day and modify the environment to maximize this participation **(K, S).** 3. Implement individual or group intervention, consultation, monitoring or environmental adaptations for student with disability to expand performance within the educational environment **(K, S, A).**	ME Com Col L HA P S

Rotation	Duration	Training settings/sites	Objectives	competency roles**
			4. Collaborate with parents, teachers, psychologists, speech therapists, and occupational therapists to determine the needs of students with disabilities within the school environment (**A**). 5. Help students to maintain good sitting posture either in a classroom chair or on the floor which directly affects the education process (**S**). 6. Assist students with disabilities in navigating the school facilities independently and safely (S). 7. Build long-term, trusting relationships with patients and their guardians to deliver opportunities to encourage and emphasize changes in child health behavior (**A**).	
During the duration of the program the resident should cover:				
1- Research and development in pediatric health care see appendix A for research rotation details			1. identify the different activities of research and development (R&D): basic research, applied research and experimental development. 2. Expand the existing body of knowledge by providing solutions to problems in pediatric physical therapy with a focus on innovation in pediatric health care. 3. Design a framework of research process and understand the fundamentals of research methods. 4. Identify different research designs and techniques. 5. Collect important information from literature review using different databases. 6. Prepare a research proposal. 7. Conduct statistical analysis of data. 8. Implement research ethical considerations. 9. Submit a written manuscript for patenting or publication.	Com L HA P S
2- Case presentat			1. Apply and record systematic assessment and treatment based on evidence-based practice in relation to a particular complex case.	Com L HA

Rotation	Duration	Training settings/sites	Objectives	competency roles**
			2. Improve skills and clinical decision--making by integrating knowledge with clinical application. 3. Accurately and objectively record and present data regarding patient management to colleagues and other health professionals. 4. Improve presentation skills by regularly seeking feedback on presentations. 5. Present a patient's condition in a logical manner and lead the group discussion. 6. Improve time management skills	P S
Mentorship			Integrates appropriate educational strategies in order to deliver appropriate content and improve knowledge and skills of interns or junior residents in clinical or academic settings	L

4. Mapping of learning objectives and competency roles to program rotations:

This section aims to match the competencies and objectives of each rotation. Trainees and trainers should work together to achieve these objectives during teaching and formative assessment. Expectations should evolve as the training level progresses (training stage and milestones).

The CanMEDs Roles:

- **Medical Expert**

Medical experts played a central role in the CanMEDS framework. The pediatric physical therapy program integrates all CanMEDS roles, applying medical knowledge, clinical skills, and professional attitudes in their provision of patient-cantered care.

- **Medical Expert**

Competency: Resident should implement expert level of	Year 1	Year 2	Year 3
examination, evaluation, and plan of care for successful outcomes for pediatric patients with neurological conditions in outpatient setting	√	√	√
examination, evaluation, and plan of care for successful outcomes for pediatric patients with musculoskeletal conditions in outpatient setting	√	√	√
examination, evaluation, and plan of care for successful outcomes for pediatric patients with neurological conditions in inpatient setting		√	√
examination, evaluation, and plan of care for successful outcomes for pediatric patients with musculoskeletal conditions in inpatient setting		√	√
examination, evaluation, and plan of care for successful outcomes for pediatric patients in NICU/PICU			√
examination, evaluation, and plan of care for successful outcomes for pediatric patients with cardiopulmonary conditions			√
examination, evaluation, and plan of care for successful outcomes for pediatric patients with burns or wounds			√
examination, evaluation, and plan of care for successful outcomes for pediatric patients with oncology conditions			√
Actively contribute, as an individual and as a member of a team providing care, to the continuous improvement of healthcare quality and patient safety			√

- **Communicator**

As communicators, pediatric physical therapists form relationships with patients and their families that facilitate the gathering and sharing of essential information for effective healthcare.

Competency: Resident should implement expert level of	Year 1	Year 2	Year 3
Professional therapeutic relationship with patient and their families	√	√	√
Acquire information and synthesize accurate and relevant information, incorporating the perspectives of patients and their families	√	√	√
Share health care information and plans with patients and their families	√	√	√
Engage patients and their families in developing plans that reflect the patient's health care needs and goals	√	√	√
Document and share written and electronic information about the medical encounter to optimize clinical decision-making, patient safety, confidentiality, and privacy	√	√	√

- **Collaborator**

As collaborators, pediatric physical therapists work effectively with other healthcare professionals to provide safe, high-quality, patient-cantered care.

Competency: Resident should implement expert level of	Year 1	Year 2	Year 3
Working effectively with other colleagues in the health care professions	√	√	√
Handing over the care of a patient to another health care professional to facilitate continuity of safe patient care	√	√	√

- **Leader**

As leaders, physical therapists engage with others to contribute to the vision of a high-quality healthcare system and take responsibility for the delivery of excellent patient care through their activities as clinicians, administrators, scholars, and teachers.

Competency: Resident should implement expert level of	Year 1	Year 2	Year 3
Contribute to the improvement of pediatric physical therapy delivery in teams, organizations, and systems	√	√	√
Demonstrate leadership in pediatric physical therapy practice		√	√

Health Advocate

As health advocates, physical therapists contribute their expertise and influence as they work with communities or patient populations to improve health. They work with those they serve to determine and understand needs, speak on behalf of others when required, and support the mobilization of resources to effect change.

Competency: Resident should implement expert level of	Year 1	Year 2	Year 3
Responding to an individual pediatric patient's health needs by advocating with the patient within and beyond the clinical environment	√	√	√
Evaluating the impact of health care issues beyond the individual, to the level of institution and society, and advocating for such concerns.	√	√	√

- ### Scholar

Physical therapists demonstrate a lifelong commitment to excellence in practice through continuous learning, teaching others, evaluating evidence, and contributing to scholarship.

Competency: Resident should implement expert level of	Year 1	Year 2	Year 3
Integrates best available evidence to design, deliver, and evaluate instructional activities.	√	√	√
Integrates appropriate educational strategies in order to deliver appropriate content, improve knowledge and skills of interns or junior residents in clinical or academic settings		√	√

- **Professional**

As professionals, physical therapists are committed to the health and well-being of individual patients and society through ethical practices, high personal standards of behaviour, accountability to the profession and society, physician-led regulation, and maintenance of personal health.

Competency , Resident should implement expert level of	Year 1	Year 2	Year 3
Demonstrate efficient clinical judgment and present logical rationale based on the evidence-based practice, expertise and patient's perspective and respond to the outcomes for pediatric patients	√	√	√
Recognize ethical values and their impact on pediatric patient outcomes, public trust, and patient/therapist safety.	√	√	√

IX. CONTINUUM OF LEARNING

This includes learning that should take place at each key stage of progression within the specialty. Residents are reminded of lifelong continuous professional development (CPD). Residents should keep in mind the necessity of CPD for every healthcare provider to meet the demands of their vital profession. The following table shows how this role is progressively expected to develop throughout the junior, senior, and consultant levels of practice.

Undergraduate	Year 1-2 (Junior Level)	Year 3 (Senior Level)	Consultant
Non-practicing	Dependent/supervised practice	Dependent/supervised practice	Independent practice/provide supervision
Obtain basic health science and foundational level of core discipline knowledge	Obtain fundamental knowledge related to core clinical problems of the specialty	Apply knowledge to provide appropriate clinical care related to core clinical problems of the specialty	Acquire advanced and up-to-date knowledge related to core clinical problems of the specialty
Internship to the practice of discipline	Apply clinical skills such as physical examination and practical procedures related to the core presenting problems and procedures of the specialty	Analyze and interpret the findings from clinical skills to develop appropriate differential diagnoses and management plan for the patient	Compare and evaluate challenging, contradictory findings and develop expanded differential diagnoses and management plan

X. TEACHING METHODS

The teaching process in postgraduate training programs is mainly based on the principles of adult learning theory. Residents feel the importance of learning and have active roles in the content and process of their learning. The training programs implement the adult learning concept on each feature of the activities, where the Residents are responsible for their own learning requirements. Residency is structured to increase the knowledge base through study and clinical skills through clinical training, mentoring, and free practice.

Theoretical lectures (related to pediatric cases, 10% of program); clinical instruction (model-based instruction in pediatric physiotherapy assessment and treatment techniques (10% of program, including spine, extremity, and specific clinical techniques); clinical mentoring (trainee will be clinically attached to a defined instructor to practice under guidance, 30% of program). Clinical practice trainees will be evaluated via a patient management model (50% of the program).

Formal training time would include the following three formal teaching activities:

- Program Specific Learning Activities
- Universal topics
- General Learning Opportunities

1. Program Specific Learning Activities:

Program-specific activities are educational activities specifically designed and intended for residents during their training time. Trainees are required

to attend these activities, and non-compliance can subject them to disciplinary actions.

A) Program Academic half-day:

The academic half-day is a formal teaching time that is planned in advance with an assigned tutor, time slots, and venue. It covers the core specialty topics and is conducted a didactic learning style (didactic education). Forty didactic education sessions will be conducted annually, with 3-4 hours per session every week. Specialty topics may include workshops, team-based learning (TBL), and simulations to develop skills in core procedures. Appendix B presents an example of an academic half-day schedule.

Lectures are structured to develop a deeper understanding of the brain and nervous system and the process of rehabilitation. It covers advanced anatomy, physiology, biomechanics, management of disorders and injuries, and specific skills in physical therapy.

B) Practice-based learning:

Practice-based learning is an excellent learning method. Practice-based learning can be laboratory-based, community-based, or clinical-based. Residents are exposed to many learning activities such as simulations, standardized patients, bedside teaching, paper/video case scenario analysis, guided observation sessions, face-to-face interviews, and handover training. They are expected to build their capacity based on self-directed learning and allow the educator to supervise residents become competent in the required program practical skills to ensure that they fulfil the knowledge, skills, and/or attitude learning domains. Each resident must maintain a logbook documenting the procedures observed, performed under supervision, and performed independently.

See Appendix C for common pediatric conditions in Saudi Arabia. Model-based training is intended to teach trainees different skills in a nonpatient

model. The trainee learns and practices each skill before integrating it into practice. Clinical practice is divided into supervised/mentored and free practice. Illnesses must comprise a minimum of 90% of the cases seen by the trainee. Clinical practice encompasses both acute and chronic conditions in all body parts. Full clinical management entails advanced assessments, clinical reasoning, and interventions for multiple areas of dysfunction that may be inter-related or contribute to the patient's health status or complaints by caregivers.

C) Morning report:

A morning report is a case-based teaching session: it is common to many Board programs with varying purposes and focuses. The goals for the morning report are to teach efficient handover strategies and case presentation skills, to allow discussion of the management of interesting cases, and to enhance problem-solving and multidisciplinary team skills.

2. Universal Topics

Universal topics are educational activities developed by the SCFHS and are intended for all specialties. Priority will be given to the following topics:

- High value.
- Interdisciplinary and integrated.
- Require resources that might be beyond the availability of the local clinical training sites.

Universal topics are available as e-learning via personalized access to each resident (to access online modules). Each universal topic will have a self-assessment at the end of the module. As indicated in the "executive policies of continuous assessment and annual promotion" (please refer to www.scfhs.org), universal topics are a mandatory component of the criteria for the annual promotion of residents from their current level of training to the subsequent level. Universal topics are distributed throughout the training

period. The table below shows the universal topics and years required to finish.

Training Year	Modules		Topic name	
	Number	Name	Number	Name
Year1	Module -1	Introduction	Topic-2	Hospital acquired infections
	Module -7	Ethics and Healthcare	Topic-31	Occupational hazards of HCW
			Topic-33	Patient advocacy
			Topic-35	Ethical issues: treatment refusal; patient autonomy
Year 2	Module -5	Acute Care	Topic-21	Pre-operative assessment
			Topic-22	Post-operative care
			Topic-23	Acute pain management
			Topic-24	Chronic pain management
			Topic-25	Burn management
	Module -2	Cancer	Topic-6	Principles of management of cancer
			Topic-7	Side effects of chemotherapy and radiation therapy
			Topic-9	Cancer prevention
			Topic-10	Surveillance Follow-up of cancer patients
Year 3	Module -4	Medical and Surgical Emergencies	Topic-15	Management of acute chest pain
			Topic-16	Management of acute breathlessness

Training Year	Modules		Topic name	
	Number	Name	Number	Name
			Topic-18	Management of hypotension and hypertension
	Module -3	Diabetes and Metabolic Disorders	Topic- 11	Recognition and management of diabetic emergencies
			Topic-12	Management of diabetic complications
			Topic-13	Comorbidities of obesity
			Topic-14	Abnormal ECG

3. General Learning Opportunities:

Formal training time should be supplemented by other practice-based learning (PBL), such as:

a- Journal Club

Journal clubs will be utilized to keep trainees updated on new trends and evidence-based practices. This will also facilitate the inclination toward participation in research.

b- Grand rounds:

Grand rounds expand the trainee's knowledge base and interaction skills. In-patient neurological rehabilitation is a synchronized operation, and such exposure will facilitate time management and improve clinical decision-making capabilities. It will also build critical thinking abilities through interactions with multiple cases and professional opinions.

c- Continuous professional activities (CPD) relevant to the specialty (conferences and workshops)

Observation will be utilized to learn the role of other specialties or disciplines in the rehabilitation process (e.g., surgeons, occupational therapists, prosthetists, and orthotists). The resident/trainee will be exposed to other disciplines, such as physical therapy, based on the International Classification of Functioning, Disability, and Health.

d- Involvement in quality improvement committees and meetings

XI. ASSESSMENT AND EVALUATION

1. Purpose of Assessment

Throughout the program, evaluations and assessments are conducted in accordance with the Commission's training and examination rules and regulations. Assessment guides residents and trainers to achieve defined standards, learning outcomes, and competencies. On the other hand, the assessment provides feedback to learners and faculties regarding curriculum development, teaching methods, and the quality of the learning environment. In addition, a reliable and valid assessment will be used for evaluating curriculum alignment between objectives, learning methods, and assessment methods. Finally, the assessment assures patients and the public that health professionals are safe and competent to practice.

Assessment can serve the following purposes:

a. Assessment for learning: Trainers use information from residents' performance to inform them of residents' learning improvement. It enables educators to use information about residents' knowledge, understanding, and skills to provide feedback about learning and how to improve.
b. Assessment as learning involves trainees in the learning process, enabling them to monitor their own progress. Residents use self-assessment and educators' feedback to reflect on their progress. It develops and supports the metacognitive skills of residents. Assessment as learning is crucial in helping residents become lifelong learners.

c. Assessment of learning is used to demonstrate the achievement of learning. This is a graded assessment and usually counts toward the residents' end-of training degree.
d. Feedback and evaluation: Assessment outcomes represent quality metrics that can improve the learning experience.

2. Formative Assessment

2.1 General Principles

Continuous assessment (Formative assessment) is distributed throughout the academic year to provide residents with adequate feedback. Every two weeks, residents should be assigned at least one hour to meet with their mentors to review performance reports (e.g., ITER, e-portfolio, mini-CEX, etc.). Input from the overall formative assessment tools will be utilized at the end of the year to determine whether individual trainees will be promoted from the current to the subsequent training level.

According to the executive policy on continuous assessment (available online: www.scfhs.org), formative assessment will have the following features that will be used based on Miller's pyramid (Appendix D):

a. Multisource: minimum four tools.
b. Comprehensive: covering all learning domains (knowledge, skills, and attitude).
c. Relevant: focusing on workplace-based observations.
d. Competency-milestone oriented: Reflecting the trainee's expected competencies that match the trainee's developmental level.

Residents should play an active role in seeking feedback during the training. Conversely, residents are expected to provide timely and formative assessments. The SCFHS will provide an e-portfolio system to enhance the communication and analysis of data arising from formative assessments.

Residents and trainees are directed to follow the recommendations of the scientific council regarding the updated forms, frequency, distribution, and deadlines related to the implementation of evaluation forms.

2.2 Formative Assessment Tools

The table shows the tools that are used in the formative assessment.

Learning Domain	Formative Assessment Tools	Important details (e.g frequency , specifications related to the tool)
Knowledge	- Annual Written Progress Test (Local or International) - Structured Oral Exam (SOE) - Case Based Discussion (CBD)	Each core specialty of the didactic course will be evaluated using an Annual Written Progress Test in multiple-choice and essay questions. The SOE will take place at the end of each clinical rotation. Exam questions will be designed according to the subject of the clinical rotation. Evaluations will be based on the accomplishment of the minimum requirements for the knowledge skills. The CBD is a discussion between trainer and residents to assess professional judgment in clinical cases.
Skills	- OSCE: Objective Structured Clinical Examination - Mini-CEX: mini-Clinical Evaluation Exercise - Logbook - Research Presentation	OSCE, each resident will receive a 2-hour clinical performance evaluation after each rotation of the three-year program. The Mini-CEX will be used to evaluate accomplishment changes for the minimum requirements over time. Evaluations will be based on interaction between the residents and patients to assess clinical skills, attitudes, and behaviors. A record of the Logbook should be kept by the residents, then submitted after each

Learning Domain	Formative Assessment Tools	Important details (e.g frequency , specifications related to the tool)
		round. Timely and specific feedback for the residents will be provided. Research Presentation: each resident should prepare, conduct, and present a research project to improve their communication skills. for successful performance, one must follow the Program Completion Requirements.
Attitude	ITER: In-Training Evaluation Report	The ITER is the key document used for the evaluation of a resident's performance on each rotation.

Example of progress test exams blueprint:

Categories	Sections	Proportions	Contents				
			Basic Medical knowledge	Assessment	Intervention	Diagnosis	Outcomes
Neurological condition in/outpatient 30%	Reflexes	6%	2	2	0	1	1
	Sensory exam	6%	2	2	0	1	1
	Motor function & balance	6%	2	1	1	1	1
	Gait analysis/locomotion	6%	2	1	1	1	1
	Mental functions	6%	2	2	0	0	2

Categories	Sections	Contents					
		Proportions	Basic Medical knowledge	Assessment	Intervention	Diagnosis	Outcomes
Musculoskeletal condition in/outpatient 30%	Muscle power	7%	2	1	2	1	1
	ROM	7%	2	1	2	1	1
	Spinal posture	7%	2	1	2	1	1
	Deformities & Assistive devices	9%	3	2	0	2	2
Another Specialty 40 %	Motor & Sensory function evaluation	30%	10	5	5	5	5

The evaluation of each component will be based on the following equation:

Percentage	< 50%	50-59.4%	60-69.4%	>70%
Description	Clear fail	Borderline fail	Borderline pass	Clear pass

To achieve unconditioned promotion, the candidate must score a minimum of "borderline pass" for all five components.

- The program director can still recommend the promotion of candidates if the above is not met in some situations.
- If the candidate scored "borderline failure" in one or two components at maximum, these scores should not belong to the same area of assessment (for example, borderline failures should not both belong to the skills category).

- The candidate must have passed all other components and scored a minimum of clear pass in at least two components.

3. Summative Assessment

3.1 General Principles

Summative assessment is a component of assessment that aims primarily to make informed decisions about trainees' competency. Comparison to formative assessment, the summative assessment does not aim to provide constructive feedback, but takes place at the end of each training year and the final examination certification. To be eligible to sit for the final exams, trainees will be granted a certification of training completion upon successful completion of all training rotations. For further details in this section, please refer to the general bylaws and executive policy of assessment (available online: www.scfhs.org).

3.2 First Part Examinations

- A written exam permits residents to be promoted from the first year to the second year, and then from the second year to the third year of training.
- The examination will focus on applied basic science knowledge related to Pediatric Physical Therapy.
- The number of exam items, eligibility, and passing scores will follow the Commission's rules and regulations.
- For further details on the first part of the examination, please refer to the general bylaws and executive policy of assessment (available online: www.scfhs.org).
- Blueprint Outlines: The content of the following table is for demonstration only (please refer to the most updated version published on the SCFHS website).

Example of first part and final examination blueprint:

Categories	Sections	Contents					
		Proportions	Basic Medical knowledge	Assessment	Intervention	Diagnosis	Outcomes
Neurological condition in/outpatient 30%	Reflexes & Coordination	6%	2	2	0	1	1
	Sensory & motor exam	6%	2	2	0	1	1
	Sensorimotor function	6%	2	1	1	1	1
	Gait analysis/locomotion & balance	6%	2	1	1	1	1
	Mental functions	6%	2	2	0	0	2
Musculoskeletal condition in/outpatient 30%	Muscle power	7%	2	1	2	1	1
	ROM	7%	2	1	2	1	1
	Spinal posture	7%	2	1	2	1	1
	Deformities & Assistive devices	9%	3	2	0	2	2
Another Specialty 40 %	Motor & Sensory function evaluation	30%	10	5	5	5	5

3.3 Final In-training Evaluation Report (FITER)

- In addition, the supervising committee will approve the completion of the clinical requirements (Residents' Logbook).
- The FITER will be prepared by program directors for each resident at the end of their final third year of training.
- This report will be the basis for obtaining the certificate of training program completion and the qualification to sit for the final specialty examinations.

3.4 Certification of Training-Completion

- To be eligible for final specialty examinations, each resident is required to obtain "Certification of Training Completion". Based on the training bylaws and executive policy (please refer to www.scfhs.org) residents will be granted Certification of Training Completion once the following criteria are fulfilled:
  a) Successful completion of all training rotations.
  b) Completion of training requirements (e.g., logbook, research, others) as outlined in FITER, which is approved by the scientific council/committee of specialties.
  c) Clearance from SCFHS training affairs ensures compliance with tuition payments and completion of universal topics.
  d) Passing the first part examination (whenever it is applicable)
- Certification of Training Completion will be issued and approved by the supervisory committee or its equivalent according to SCFHS policies.

3.5 Final Specialty Examinations

The final specialty examination is a summative assessment component that grants residents certification of the specialty. It has two elements:

a) Final written exam: In order to be eligible for this exam, residents are required to have Certification of Training Completion.

b) Final clinical/practical exam: Residents will be required to pass the final written exam to be eligible for the final clinical/practical exam.

Blueprint Outlines: The content of the following table is for demonstration only (please refer to the most updated version published on the SCFHS website).

Example of final exams blueprint:

Categories	Sections	Proportions	Contents				
			Basic Medical knowledge	Assessment	Intervention	Diagnosis	Outcomes
Neurological condition in/outpatient 30%	Reflexes & Coordination	6%	2	2	0	1	1
	Sensory & motor exam	6%	2	2	0	1	1
	Sensorimotor function	6%	2	1	1	1	1
	Gait analysis/locomotion & balance	6%	2	1	1	1	1
	Mental functions	6%	2	2	0	0	2
Musculoskeletal condition in/outpatient 30%	Muscle power	7%	2	1	2	1	1
	ROM	7%	2	1	2	1	1
	Spinal posture	7%	2	1	2	1	1
	Deformities & Assistive devices	9%	3	2	0	2	2

Another Specialty 40 %	Motor & Sensory function evaluation	30%	10	5	5	5	5

Example of Final Clinical Exam Blueprint:

		DIMENSIONS OF CARE				
		Health Promotion & Illness Prevention 1±1 Station(s)	Acute 5±1 Station(s)	Chronic 3±1 Station(s)	Psychological Aspects 1±1 Station(s)	# Station(s)
DOMAINS FOR INTEGRATED CLINICAL ENCOUNTER	Patient Assessment 7±1 Station(s)					
	Patient Safety & Procedural Skills (Management) 1±1 Station(s)					
	Communication & Interpersonal Skills 2±1 Station(s)					
	Professional Behaviors & Ethics 0±1 Station(s)					
	Total Stations					

*Main blueprint framework adapted from the Medical Council of Canada Blueprint Project.

For further details on the final examinations, please refer to general bylaws and executive policy of assessment (available online: www.scfhs.org).

Learning Domain	Summative Assessment Tools	Passing Score
Knowledge	- Final Written Examination	At least borderline pass in each tool in accordance with the standard setting method used by the executive administration of assessment
Skills	- Objective Structured Clinical Examinations (OSCE) - Structured Oral Examinations (SOE)	At least borderline pass in each tool in accordance with the standard setting method used by the executive administration of assessment
Attitude	FITER: In-Training Evaluation Report	Successfully Pass FITER

XII. PROGRAM AND COURSES EVALUATION

The SCFHS applies variable measures to evaluate its implementation. The training outcomes of this program will follow the quality assurance framework endorsed by the Central Training Committee at the SCFHS. Residents assessment (both formative and summative) results will be analysed and mapped to curriculum content. Other indicators that will be incorporated are as follows:

- Report of the annual resident's satisfaction survey.
- Reports from residents' evaluation of faculty members.
- Reports from residents' evaluation of rotations.
- Reports from the annual survey of program directors.
- Data available from program accreditations.
- Reports from direct field communications with residents and trainers.

Goal-based Evaluation: The intended achievement of milestones will be evaluated at the end of each stage to assess the progress of curriculum delivery, and any deficiency will be addressed in the following stage utilizing the time devoted to resident-selected topics and professional sessions.

In addition to subject-matter opinions and best practices from benchmarked international programs, SCFHS will apply a robust method to ensure that this curriculum will utilize all the data available during the revision of this curriculum in the future.

XIII. POLICIES AND PROCEDURES

This curriculum represents the means and materials that outline the learning objectives with which trainees and trainers interact to achieve the identified educational outcomes. The Saudi Commission for Health Specialties (SCFHS) has a full set of general bylaws and executive policies (published on the official SCFHS website) that regulate all training-related processes. The general bylaws for training, assessment, and accreditation, as well as executive policies on admission, registration, continuous assessment and promotion, examination, trainees' representation and support, duty hours, and leaves, are examples of regulations to be implemented. Under this curriculum, trainees, trainers, and supervisors must comply with the most updated bylaws and policies that can be accessed online (via the official SCFHS website).

XIV. APPENDICES

A. Research rotation objectives
B. Example of an academic half day schedule
C. Top Conditions and procedures in pediatric physical therapy
D. Miller's Pyramid of Assessment
E. Glossary
F. References

Appendix-A

Example of Research Rotation Objectives

2.2.6 RESEARCH ROTATION

Number of rotation months	First year	Second year	Total
	7	11	18

MEDICAL EXPERT

Goals:

- To demonstrate an understanding of the basic principles of research design, methodology, data analysis, and clinical epidemiology.
- To familiarize themselves with the ethical requirements of research and demonstrate an understanding of the responsible use of informed consent.
- To understand and practice appropriate methods for writing the research manuscript, data collection, and results analysis and discussion.
- To demonstrate awareness of current research topics in pediatric physical therapy using available medical informatics systems.

- To acquire the skills for scientific presentations and public discussions.

Training Methods

- A dedicated two months of basic scientific research is conducted in the first year, followed by five months to write and submit the research proposal.
- The project is expected to span several months. Therefore, the completion of the work should be parallel to other subsequent rotations.
- The resident must choose a supervisor to help in accessing the essential resources that will allow an appropriate understanding of research skills and periodically discuss progress.
- Attendance at dedicated courses or workshops that enhance research skills may be required of the program.
- The resident must finish the research proposal and be accepted by the research committee before the end of the first year.
- The oral abstract of the study results should be presented in the second year, on Residents Research Day.
- The research paper should be sent in at least 2 weeks before the Scientific Research Day.
- It is highly desirable for residents to work on presenting research results at national and/or international meetings and work hard to publish their work in indexed journals.

Evaluation

- Attendance at designated courses/lectures was monitored and incorporated into the annual evaluation scores.
- Panel scoring of the research abstract presentation will be conducted at the end of the 2nd year, on Scientific Research Day. This was considered as the rotation score for that month.

COMMUNICATOR

- Demonstrate skills in conveying and discussing scientific research to scientific communities through posters, abstracts, teaching slides, manuscripts, or other scientific communications.
- Communicate and collaborate effectively with the research supervisor to conduct the research.

COLLABORATOR

- Identify, consult, and collaborate with appropriate experts to conduct the research.

LEADER

- Demonstrate the ability to identify an area of research interest and a research supervisor to engage in the scholarship of scientific inquiry and dissemination.
- Demonstrate ability to utilize available resources and regularly meet with an identified research mentor.
- Demonstrate the ability to set realistic priorities and use time effectively to optimize professional performance.
- Demonstrate an understanding of the cost-effective use of health care resources.

HEALTH ADVOCATE

- Recognize the contributions of scientific research in improving the health of patients and communities.

SCHOLAR

- Demonstrate the ability to pose an appropriate research question, recognize and identify gaps in knowledge and expertise around this question, and formulate an appropriate study design to answer it.
- Demonstrate the ability to carry out the research outlined in the proposal.

- Demonstrate the ability for data collection, data analysis, and preparation of an abstract and manuscript.
- Demonstrate the ability to identify areas for further research.

PROFESSIONAL

- Ethical and professional research expectations are consistent with institutional review board guidelines, including the maintenance of meticulous data and the conduct of ethical research.
- Demonstrate personal responsibility for setting research goals and work with a supervisor to set and achieve research timeline objectives.
- Publish accurate and reliable research results, with attention to appropriate authorship attribution criteria.
- Disclose potential financial conflicts of interest (including speaker fees and consultative relationships) as appropriate when engaging in and disseminating research results.

Appendix B

Example topics of the academic day will be: Physical therapy management for neurological conditions (10 weeks); human development (6 weeks); physical therapy management for musculoskeletal conditions (10 weeks); pediatric orthotic, prosthetic, and assistive technology (8 weeks); research and development in pediatric health care (12 weeks); physical therapy inpatient care for neurological conditions (10 weeks); physical therapy inpatient care for musculoskeletal conditions (10 weeks); physical therapy in early intervention (8 weeks); case study presentation in pediatric physical therapy (6 weeks); physical therapy in the educational environment (8 weeks); pediatric oncology rehabilitation (8 weeks); rehabilitation of children with burns/wounds (6 weeks); cardiopulmonary physical therapy for pediatric patients (10 weeks); patient education and counselling (5 weeks); sport injuries in children (3 weeks).

Example of an Academic Half Day Schedule

Academic week	Section	Date	Time	Sessions	presenters
1	Human development	Sep. 01	08:00-09:00	welcoming to the program	Program director
			09:00-10:00	Introduction to human growth and development	A
			10:00-11:00	Motor development theories, direction, and goals	B
2		Sep-08	08:00-11:00	The developmental progression	C
			11:00-12:00	Case-based study	E
3		Sep- 15	08:00-11:00	Assessment and testing of infant and child development	F
			11:00-12:00	Case-based study	B
4		Sep- 22	08:00-09:00	Journal club*	K
			09:00-10:00	Case-based study	B
			10:00-12:00	Infants at high risk for developmental delay	A

Appendix C

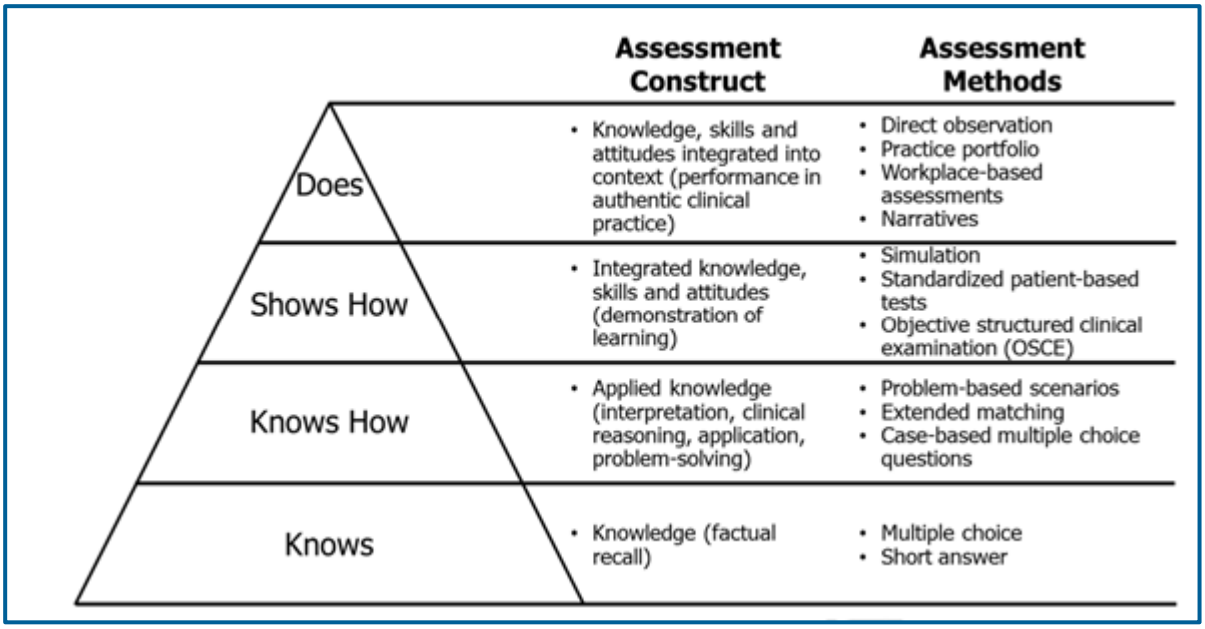
Top Conditions and Procedures in Pediatric Physical Therapy

Top Conditions in the pediatric		
Top Ten Causes of Out-Patient Referral in Pediatric Physical Therapy		
Conditions		
1.	Cerebral palsy	
2.	Neural tube defect	
3.	Developmental delay	
4.	Muscular dystrophy	
5.	Musculoskeletal injury	
6.	Down syndrome	
7.	Developmental Dysplasia of the hip	
8.	Congenital foot and ankle deformity	
9.	Congenital Muscular torticollis	
10.	Traumatic Head/spinal injury	
	Top Ten Causes of In-patient Referral for Pediatric Physical Therapy	
Conditions		
1.	Cerebral palsy	
2.	Traumatic brain injury	
3.	Brain tumor	
4.	Spinal cord injury	
5.	Electric/burn wound	
6.	Oncology condition	
7.	Musculoskeletal surgery	

Top Conditions in the pediatric		
8.	Cardiac disorder	
9.	Pulmonary and respiratory condition	
10.	Amputation	
Examples of Core Specialty Topics: Case Discussions; Interactive Lectures		
Topics		
Differential diagnosis and conceptual framework to improve pediatric motor disorder		
Pediatric physical therapy telehealth		
Virtual reality management in children with disabilities		
Assistive devices management in children with disabilities		
Role of PT of children with developmental coordination		
Examples of Core Specialty Topics: Workshops/Simulation		
Topics		
Pre-Gait and Gait Interventions to Improve Function in Children with Cerebral Palsy		
Measuring tools for infants with disabilities		
Pediatric vestibular rehabilitation		
Pediatric locomotion and gait analysis		
Functional mobility assessment for patients with lower extremity amputation		

Appendix-D

Miller's Pyramid of Assessment provides a framework for assessing the trainees' clinical competences which acts as a road map for the trainers to select the assessment methods to target different clinical competencies including "knows," "knows how," "shows how," and "does" (2).



(Figure 1: Miller's Pyramid)

Appendix-E

Glossary

Glossary	
Blueprint	Description correlating educational objectives with assessment contents. For example, the test blueprint defines the proportion of test questions allocated to each learning domain and/or content.
Competency	Capability to function within a defined professional role that implies entrusting a trainee by graduation from the program with the required knowledge, skills, and attitude needed to practice unsupervised.
Specialty Core Content (skills, knowledge, and professional attitude)	A specific knowledge or skill or professional attitude that is specific and integral to the given specialty.

Glossary	
Formative assessment	An assessment that is used to inform the trainer and learner of what has been taught and learned, respectively, for the purpose of improving learning. Typically, the results of formative assessment are communicated through feedback to the learner. Formative assessments are not intended primarily to make judgments or decisions (though it can be as a secondary gain).
Mastery	Exceeding the minimum level of competency to the proficient level of performance indicating rich experience with possession of great knowledge, skills, and attitude.
Portfolio	A collection of evidence of progression toward competency. It may include both constructed components (defined by mandatory continuous assessment tools in the curriculum) and unconstructed components (selected by the learner).
Summative assessment	An assessment that describes the composite performance of the development of a learner at a particular point in time and is used to inform judgment and make decisions about the level of learning and certification.
Universal Topic	A knowledge, skill, or professional behavior that is not specific to the given specialty but universal for the general practice of a given healthcare profession.

Appendix-F

References

1- The General Authority for Statistics (GASTAT) (2020) "Saudi Youth Report in Numbers" a special report on August 9, 2020.

2- Frank JR, Snell L, Sherbino J, editors. CanMEDS 2015
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and Surgeons of Canada; 2015.).