CATA
CANADIAN ATHLETIC THERAPISTS ASSOCIATION

Athletic Rehabilitation Therapy IRELAND

ACADIA UNIVERSITY

MOUNT ROYAL UNIVERSITY

TUS

Evidence-Based Practice across 7 Programs and 4 Countries

STRATEGIC ALLIANCE
BOC CAATE NATA
CERTIFICATION CONSUMER PROTECTION
ACCREDITATION QUALITY EDUCATION
ADVOCACY PROFESSIONAL DEVELOPMENT
RESEARCH SCHOLARSHIP

UNIVERSITY OF South Carolina

BASRaT British Association of Sport Rehabilitators

LIVERPOOL HOPE UNIVERSITY 1844

DUQUESNE UNIVERSITY

University of Nottingham
UK | CHINA | MALAYSIA

Introduction - Mark Lafave

- Presenter Disclosures
    - Associate Dean of Research and Community Engagement in the Faculty of Health, Community, & Education.
    - Professor in the Athletic Therapy program at MRU.
    - Author of the Athletic Therapy Competency Framework in Canada.
    - Personal relationship with one of the co-presenters (partner)
    - No financial interests in any frameworks, IP rights with respect to competency frameworks.

Introduction

- Genesis of the idea of an international panel:

Home | JAMA Network Open | Vol. 1, No. 2

Consensus Statement | Medical Education

Core Competencies in Evidence-Based Practice for Health Professionals

Consensus Statement Based on a Systematic Review and Delphi Survey

Loai Albarqouni, MD, MSc[1]; Tammy Hoffmann, PhD[1]; Sharon Straus, MD, MSc[2,3] ; et al

- CATA Competency Framework - moving from one competency to an entire subdomain in 2021

ATHLETIC TRAINING EDUCATION JOURNAL

www.natajournals.org
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ORIGINAL RESEARCH

Development and Validation of a New Competency Framework for Athletic Therapy in Canada

Mark R. Lafave, PhD, CAT(C)*; Jeffrey M. Owen, MSc, CAT(C)*; Breda Eubank, PhD, CAT(C)*; Richard DeMont, PhD, CAT(C), ATC†
*Mount Royal University, Calgary, AB, Canada †Concordia University, Montreal, QC, Canada

The Plan for Presentations and Panel

- Each country-expert will introduce themselves, their professional standards/competencies/accreditation requirements.
- Each country-expert will provide a seven minute overview of HOW they meet the standards/competencies/accreditation requirements (4 Countries, 7 programs).
- Each country-expert will speak to ways they measure EBP competence in their students.
- We will leave ~20 minutes for an open panel discussion where we take questions from the audience, so please write your questions down and keep them until the end.

Panel Presentation Order

Time	Topic	Presenter
14:20	Introduction of topic & presenters	Mark Lafave
14:27	ARTI - Tech. University of Shannon	Lynn Allen
14:35	ARTI - Tech. University of Shannon	Anna Postawa
14:42	CATA - Acadia University	Colin King
14:49	CATA - Mount Royal University	Lynne Lafave
14:56	BASRaT - University of Nottingham	Richard Moss
15:03	BASRaT - Liverpool Hope University	Allan Munro
15:10	CAATE/NATA - Duquesne University	Sarah Manspeaker
15:17	CAATE/NATA - University of South Carolina	Jim Mensch
15:25-15:50	Panel Discussion	All

Athletic Rehabilitation Therapy

IRELAND

Athletic Rehabilitation Therapy
IRELAND

Lynn Allen,

MSc, PgDip, BSc, CAT

Presenter Disclosures:

- President of ARTI
- Program Director, Lecturer and placement coordinator of BSc (Hons) in Athletic Rehabilitation Therapy in TUS.
- Host of WFATT World Congress 2025
- No financial interests in any frameworks, IP rights with respect to competency frameworks.

ARTI is the governing body responsible for the:

Promotion

Regulation

Continued Education

of Certified Athletic Therapists in Ireland

Athletic Rehabilitation Therapy
IRELAND

ARTI ensure our Certified Athletic Therapists are:

- ☑ Providing the highest quality healthcare
- ☑ Working alongside allied health professionals
- ☑ Evidence based Practice
- ☑ Continuing professional development
- ☑ Emergency care certified

Athletic Rehabilitation Therapy
IRELAND

Accredited University Courses:

DCU

BSc Athletic Therapy & Training

TUS

BSc Athletic & Rehabilitation Therapy

SETU Ollscoil Teicneolaíochta an Oirdheiscirt South East Technological University

BSc Sport Rehabilitation & Athletic Therapy

ATU Ollscoil Teicneolaíochta an Atlantaigh Atlantic Technological University

BSc Athletic Therapy & Exercise Rehabilitation

Athletic Rehabilitation Therapy IRELAND

Evidence Based Practice – Organisational standpoint

ARTI Code of Ethics

ARTI Scope of Practice

ARTI Educational Competencies

Athletic Rehabilitation Therapy
IRELAND

Evidence Based Practice – Organisational Standpoint

ARTI Code of Ethics

ARTI Scope of Practice

ARTI Educational Competencies

Athletic Rehabilitation Therapy
IRELAND

Evidence Based Practice – Organisational standpoint

ARTI Code of Ethics:

Principle 3: Members shall maintain and promote high standards in their provision of services.

PRINCIPLE 3

Members shall maintain and promote high standards in their provision of services.

3.1 Members shall provide only those services for which they are qualified through education or experience and which are allowed by their practice acts and other pertinent regulation.

3.2 Members shall provide services, make referrals, and seek compensation only for those services that are necessary

3.3 Members shall recognize the need for continuing education and participate in educational activities that enhance their skills and knowledge.

3.4 Members shall educate those whom they supervise in the practice of Athletic Rehabilitation Therapy about the Code of Ethics and stress the importance of adherence.

3.5 Whenever possible, members are encouraged to participate and support others in the conduct and communication of research and educational activities, that may contribute to improved service, client or student education and the growth of evidence based practice in musculoskeletal management.

3.6 Members who are researchers or educators should maintain and promote ethical conduct in research and educational activities.

Athletic Rehabilitation Therapy
IRELAND

Evidence Based Practice – Organisational standpoint

ARTI Educational Competencies:

Foundational behaviours of professional practice The following are the core aspects of professional practice that should be integral to the educational programme and comprise the common values of the ARTI professional.
1. Primacy of patient
a. Provision of best health care for patient
b. Ensure best accepted standards of patient confidentiality
c. Include the patient (and family of patient, where appropriate) in the decision making process
d. Respect the cultural diversity of patients
e. Advocate for the health and wellbeing of all athletes, patients, communities and populations
f. Communicate with policymakers, payors, government departments and appropriate organisations in advocating for optimal patient care and public health strategies
2. Team approach to management of patients
a. Recognise and respect the skills, abilities, and scope of other health care professionals
b. Practice within the identified ARTI Scope of Practice
c. Demonstrate the ability to work with other professionals in the work environment
3. Legal practice
a. Practice in a legally competent manner
b. Practice within the laws that govern ARTI
4. Advancing knowledge
a. Used evidence based practice where possible in professional practice, including (but not limited to) the use of print and online databases to aid clinical decision-making
b. Understand the importance of continuing education and the improvement of professional practices
c. Promote the value of research and scholarship in ARTI
d. Disseminate new knowledge to fellow professionals, patients, and others as necessary
5. Professional development
a. Demonstrate honesty and integrity
b. Exhibit compassion and empathy
c. Demonstrate effective interpersonal skills
d. Develop self-assessment and personal and professional development plans as appropriate
e. Advocate for the profession

Athletic Rehabilitation Therapy
IRELAND

Evidence Based Practice – Organisational standpoint

ARTI Educational Competencies:

5. Professional Responsibility and Development

A. Record Keeping

Knowledge of:
1. All relevant Data Protection legislation
2. Best Practice protocols for documentation and record keeping
3. Medical terminology and commonly-used abbreviations
Practical proficiency:
1. Effective and appropriate recording and management of medical records and patient files

B. Professional Practice

Knowledge of:
1. ARTI Code of Ethics and Procedures
2. Relevant professional conduct issues including informed consent, duty of care, patient confidentiality
3. ARTI Scope of Practice as outlined in these Educational Competencies
4. ARTI Continuing Professional Development (CPD) guidelines and requirements.
5. Relevant and current Health and Safety legislation & practice.
6. Scientific research design pertaining to qualitative and quantitative research.
7. Promotion of critical analysis and self-reflection of current evidence-based practices and literature.
8. Awareness of practice management skills, including relevant business and legal requirements and IT skills.
9. Basic knowledge of the healthcare system in Ireland and appropriate public health strategies

Athletic Rehabilitation Therapy IRELAND

Athletic Rehabilitation Therapy
IRELAND

Dr Anna Postawa,

DProf, MSc, MISCP, CPC

Presenter Disclosures:

- Programme director and lecturer of BSc (Hons) Athletic and Rehabilitation Therapy at TUS
- No interests to be disclosed

TUS

Technological University of the Shannon: Midlands Midwest

Ollscoil Teicneolaíochta na Sionainne: Lár Tíre Iarthar Láir

LinkedIn

Bachelor of Science (Honours) in Athletic and Rehabilitation Therapy

TUS

Athletic & Rehabilitation Therapy – BSc (Hons)

Award Standard

Quality and Qualifications Ireland (QQI)

Level 8 programme

Required Credits - 240

Minimum Duration - 4 years

Generic Standard

Honours Bachelor Degree

Title	Honours Bachelor Degree
Purpose	This is a multi-purpose award-type. The knowledge, skill and competence acquired are relevant to personal development, participation in society and community, employment, and access to additional education and training.
Level	8
Volume	Large
Knowledge - breadth	An understanding of the theory, concepts and methods pertaining to a field (or fields) of learning
Knowledge - kind	Detailed knowledge and understanding in one or more specialised areas, some of it at the current boundaries of the field(s)
Know-how and skill - range	Demonstrate mastery of a complex and specialised area of skills and tools; use and modify advanced skills and tools to conduct closely guided research, professional or advanced technical activity
Know-how and skill - selectivity	Exercise appropriate judgement in a number of complex planning, design, technical and/or management functions related to products, services, operations or processes, including resourcing
Competence - context	Use advanced skills to conduct research, or advanced technical or professional activity, accepting accountability for all related decision making; transfer and apply diagnostic and creative skills in a range of contexts
Competence - role	Act effectively under guidance in a peer relationship with qualified practitioners; lead multiple, complex and heterogeneous groups
Competence – learning to learn	Learn to act in variable and unfamiliar learning contexts; learn to manage learning tasks independently, professionally and ethically
Competence - insight	Express a comprehensive, internalised, personal world view manifesting solidarity with others
Progression & Transfer	Transfer to programmes leading to Higher Diploma (Level 8). Progression to programmes leading to Masters Degree or Post-graduate Diploma (Level 9, or in some cases, to programmes leading to a Doctoral Degree (Level 10). Progression internationally to second cycle (i.e. "Bologna masters") degree programmes
Articulation	

TUS

Evidence-based practice / education

What influenced the shape of our current programme?

- **Accrediting organisation - ARTI**
- National Strategy for Higher Education to 2030
- TUS Learning, Teaching and Assessment Strategy 2022-2025

Athletic Rehabilitation Therapy IRELAND

1. *Educational Competencies*
2. *Code of Ethics*

Evidence-based practice / education

What influenced th
current programm

- Accrediting orga
- **National Strate**
  Education to 2
- TUS Learning, T
  Assessment Str

3.3 Integrating research with teaching and learning

Teaching in higher education is distinguished from teaching at other le by its focus on the integration of resea with teaching and learning. *'Education seamless web, and if we hope to have centre excellence in research, we must have excelle the classroom'.*[66] A commitment to inte research, scholarship, teaching and lear reflected in many of the submissions t Strategy Group[67] and in the strategic p many of our higher education instituti

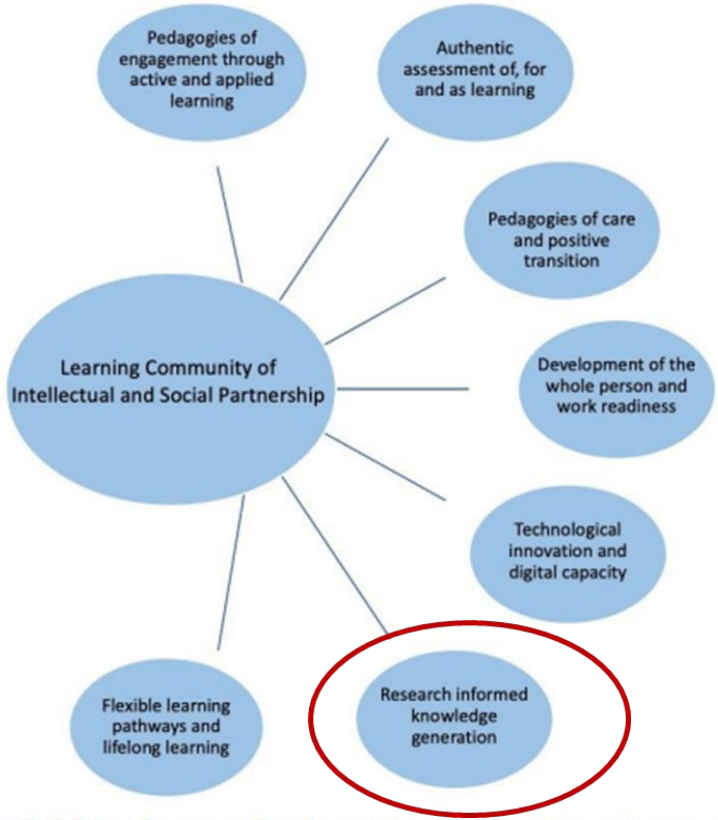
National Strategy for Higher Education to 2030

TUS

Evidence-based practice / education

What influenced the shape of our current programme?

- Accrediting organisation - ARTI
- National Strategy for Higher Education to 2030
- **TUS Learning, Teaching and Assessment Strategy 2022-2025**



e 7 TUS Pillars Supporting Excellence in Learning, Teaching and Assessment

Evidence-based practice / education

What influenced the shape of our current programme?

- Accrediting organisation - ARTI
- National Strategy for Higher Education to 2030
- **TUS Learning, Teaching and Assessment Strategy 2022-2025**

Pillar 6 - Research Informed Knowledge Generation Goals for Development & Implementation	
1.	Promote a learning, teaching and assessment dynamic that is research informed, so that knowledge generation is supported by current research and best practice arising from ongoing disciplinary inquiry.
2.	Ensure that new programme development and programme review processes integrate the most recent advances in knowledge development and knowledge application, at both programme and modular levels.
3.	Promote research and information literacy skills, including, data and digital information search, critical reading, note-taking, academic writing, citation, critical thinking, problem solving and evaluation skills in all undergraduate programmes.
4.	Support the completion of final year projects and dissertation work, so that students have developed independent research skills and engaged with areas of professional interest, that encourage progression to post-graduate research pathways.
5.	Provide students with undergraduate and post-graduate conference experiences, where students and staff collaborate in organising conference events.
6.	Develop research colloquia/industry poster presentations/conference attendance and presentation as a means for students to share research practice and findings from final year projects and dissertations.
7.	Encourage and incentivise staff to complete doctoral and post-doctoral level research, disseminate relevant aspects of their research with their students and share new knowledge through, OERS, grey papers, publication in peerreviewed journals and local, national and international conferences.
8.	Facilitate knowledge transfer from research active staff and post-graduate students to the wider TU learning community, through accessible research reports, publications, case studies and conference presentations and

Learning Outcomes

On completion of this module the learner will/should be able to;

1. Prepare and deliver academic presentations.
2. Select and evaluate scholarly sources of information.
3. Optimise time management and personal organisation skills.
4. Develop academic integrity knowledge and skills.

Assessments:

- Presentation
- Portfolio

Year 1

Stage 1

Delivered In	Code	Intake	Title	Level	Credit
SEM 1	LEAR06034	202300	Academic Skills for Sport and Health Sciences	06	05
SEM 1	MATH06002	202300	Mathematics for Sport and Health	06	05
SEM 1	PSIO06004	202300	Human Physiology 1	06	05
SEM 1	SCI06023	202300	Science for Sport and Health	06	05
SEM 1	ANAT06018	202300	Anatomy 1	06	05
SEM 1	REHB06026	202300	Screening and Injury Prevention	06	05
SEM 2	PSIO06001	202300	Human Physiology 2	06	05
SEM 2	ANAT06020	202300	Anatomy 2	06	05
SEM 2	PSYC06021	202300	Introduction to Sport and Exercise Psychology	06	05
SEM 2	PHMC06009	202300	Drugs in Sport	06	05
SEM 2	SPRT06015	202300	Introduction to Biomechanics	06	05
SEM 2	REHB06019	202300	Fundamental Rehabilitation Skills	06	05

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Department Marking Rubric

	1. Knowledge and Understanding/Application	2.Analysis and Synthesis	3. Reading and Research	4. Presentation/Referencing
>70%	Wide-outstanding knowledge of subject and ability to apply theory in a critical and thoughtful way. A thorough understanding of different debates and key issues in topic area under investigation.	Strong/excellent evidence of the ability to make a sustained argument or position based on appropriate evidence. Shows an ability to critically evaluate the evidence and synthesize material to form a coherent discussion.	Strong/very strong evidence of the effective use of a wide selection of appropriate material. Uses evidence from research to support arguments. Strong evidence of independent research and some critical reasoning.	Clear and articulate/engaging writing/presentation style that demonstrates very good command of English and. shows control of arguments being deployed. Complies with presentation criteria, accurate referencing within the text and clear acknowledgement of sources used. Accurate and complete bibliography.
60-70%	Very good subject knowledge and understanding of key issues and debates in topic area under investigation. Evidence of a good understanding of relevant theoretical material.	Evidence of the ability to make a sustained and coherent argument using appropriate evidence. Evidence of ability to evaluate evidence and synthesize generalisations.	Evidence of appropriate reading and ability to use a range of sources effectively to support arguments. Evidence of independent research.	Clear presentation/writing style that demonstrates, a good command of English. Few imprecise statements. Adheres closely to presentation criteria. Referencing and bibliography are mostly clear and accurate.
50-60%	Sound subject knowledge and understanding of key issues and	Evidence of the ability to construct an argument	Evidence of ability to select appropriate material from	Correct English usage with few imprecise statements. Adheres with

Learning Outcomes

On completion of this module the learner will/should be able to;

1. Describe the main variables related to research and how they interact within the research process;
2. Compare and contrast different study designs and their respective strengths and weaknesses;
3. Demonstrate the ability to summarise data by numerical measures;
4. Test hypotheses and interpret results using sample data provided;
5. Demonstrate the ability to visualise descriptive statistics and the results of inferential statistical tests using appropriate graphics.

Assessments:

- Statistical analysis assignment
- Written exam

Year 2

Year 1

	Code	Intake	Title	Level	Credit
	SPRT06013	201500	Emergency First Response	06	05
	ANAT06016	202300	Anatomy 3	06	05
	SPRT06020	202300	Performance Testing for Sport and Exercise Science	06	05
SEM 3	REHB06027	202300	Athletic Taping and Strapping	06	05
SEM 3	REHB06023	202300	Musculoskeletal Injuries 1	06	05
SEM 3	SPRT06016	202300	Sports Nutrition	06	05
SEM 4	RES06020	202300	Research Methods and Statistics 1	06	05
SEM 4	REHB06020	202300	Musculoskeletal Injuries 2	06	05
SEM 4	THPY06011	202300	Student-Led Clinics 1	06	05
SEM 4	REHB06024	202300	Legal, Ethical & Entrepreneurial Skills	06	05
SEM 4	REHB06022	202300	Rehabilitation 1	06	05
SEM 4	PSIO06011	202300	Applied Exercise Physiology	06	05

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Assessments:

- Statistical analysis assignment
- Written exam

Year 3

Year 2

Year 1

Stage 3

Delivered In	Code	Intake	Title	Level	Credit
YEAR	THPY07013	202300	Student-Led Clinics 2	07	10
SEM 5	RES07016	202300	Research Methods and Statistics 2	07	05
SEM 5	SPRT07018	202300	Clinical Biomechanics	07	05
SEM 5	REHB07010	202300	Musculoskeletal Injuries 3	07	05
SEM 5	REHB07012	202300	Therapeutic Modalities	07	05
SEM 5	REHB07014	202300	Rehabilitation 2	07	05
SEM 6	DIAG07001	202300	Diagnostic Imaging	07	05
SEM 6	REHB07011	202300	Musculoskeletal Injuries 4	07	05
			abilitation	07	05
			Sports Injuries and Rehabilitation	07	05
			ions in Sport	07	05

Learning Outcomes

On completion of this module the learner will/should be able to;

1. Recognise moral, ethical, and intellectual property related issues associated with the research process.
2. Recognise the difference between quantitative and qualitative research methods to address a range of research questions.
3. Demonstrate an awareness of questionable research practices and how they threaten research integrity.
4. Test for differences between multiple groups using various forms of ANOVA and model relationships using simple and multiple linear regression.
5. Demonstrate the ability to perform a priori sample size estimation and sensitivity analysis when designing a study.

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Assessments:

- Research proposal and ethics application
- Thesis document - research article format
- Poster presentation - oral defence
- Student as a researcher

Year 1

Year 2

Year 3

Year 4

Learning Outcomes

On completion of this module the learner will/should be able to;

1. Formulate a research proposal that considers potential ethical implications of the proposed research.
2. Critically evaluate relevant literature.
3. Design an appropriate research methodology.
4. Perform a range of specialist skills for the purpose of gathering data.
5. Critically evaluate the findings using appropriate statistical or qualitative analysis of the data in a coherent and systematic manner.
6. Communicate the process and outcomes of the research project work in academically accepted forms.

Stage 4

Delivered In	Code	Intake	Title	Level	Credit
YEAR	RES08023	202300	Research Project	08	20
SEM 8	REHB08005	202300	Professional Work Experience	08	30
SEM 9	THPY08005	202500	Student-Led Clinics 3	08	05
SEM 9	REHB08004	202300	Clinical Reasoning Capstone	08	05

TUS

TUS Technological University of the Shannon: Midlands Midwest
Ollscoil Teicneolaíochta na Sionainne: Lár Tíre agus Iar Lár

TUS Research

The Reliability, Variability and Minimal Detectable Change of a Novel Unilateral Seated Isometric Plantarflexion Endurance test

Department of Sport and Health Sciences, Technological University of the Shannon, Midlands, Midwest

INTRODUCTION

Testing plantarflexion endurance as a part of preperformance testing or return to play testing is important due to the muscle groups role in:

1. Stabilisation[1]
2. Change of direction[2]
3. Running speed[3]

AIMS

1. The primary aim of the study was to examine the reliability, variability and minimal detectable change of a novel unilateral seated isometric plantarflexion endurance test.
2. The secondary aim was to examine differences in best scores of male and female participants

METHODS

STUDY DESIGN

- Within-participant test-retest reliability study
- A familiarisation session was included to remove learning bias

Eligibility/Exclusion Criteria: Participants were required to:
- Be over 18 years
- Injury free in the lower limb for 6 months

Participants: 21 participants completed all 3 sessions, 13 male and 8 female
- 8 participants withdrew from testing

TESTING

Participants were required to complete a total of three testing sessions; the first was a familiarisation session followed by two testing sessions.

4. Participants height and mass were recorded
5. The recorded mass was converted into newtons and multiplied by 1.5 to calculate their target threshold
6. After the warm-up participants were instructed to sit with their lateral epicondyle of their chosen leg slightly anterior to, and the lateral malleolus in line with the mid thigh pull rig[4]
4. The participant's foot was approximately in the centre of the force plate and the bar of the mid thigh pull rig was positioned proximal to the patella[4]
5. Participants were instructed to push into the bar until they reached their target and maintain it for as long as possible
6. The test ended when the participant dropped 10% below their target threshold or fell as though they could no longer continue

STATISTICAL ANALYSIS

Raw scores for each participant were recorded on the Vald Performance software from the force plates and converted to an excel file, where the exact time each participant completed for each trial was calculated.

These results were then imported into SPSS to determine the reliability, variability and minimal detectable change

After this the best scores for male and female participants were compared using an independent t-test to compare them

RESULTS

RELIABILITY

Within-session: ICC =0.892 [Good Reliability]
Between-session: ICC =0.673 [Moderate Reliability]

OTHER RESULTS

Variability: Within-session and between session coefficient of variance was high (33.9% and 45.32%, respectively)
Minimal Detectable Change: 5.03lbs for within-session and 17.45s for between-session
Gender Normative Differences: There was no significant difference found between male and female best scores. (P = 0.976)

DISCUSSION

The testing protocol demonstrated:

Moderate Reliability ⇒ High Variability ⇒ High MDC

This could be improved upon by introducing further standardisations such as:

- The time of day testing occurs
- Monitoring Participants training loads
- Increasing the sample size

GENDER NORMATIVE DIFFERENCES

There was no significant difference between male and female performance found.

This is likely due to the test protocol being based on participant bodyweight

CONCLUSION

The reliability, variability and minimal detectable change of the testing protocol could be improved upon in further testing.
Uses: As the testing times were relatively short, the protocol may be useful in a team setting.

LIMITATIONS

1. The sample size did not meet the originally required 23 participants due to withdrawals from the study.
2. Some participants were unable to reach the threshold, meaning that the protocol is unsuitable for individuals who are unable to produce high levels of force.

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OTHER RESULTS

Variability: Within-session and between session coefficient of variance was high (33.9% and 45.32%, respectively)
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Gender Normative Differences: There was no significant difference found between male and female best scores. (P = 0.976)

TUS Technological University of the Shannon: Midlands Midwest
Ollscoil Teicneolaíochta na Sionainne: Lár Tíre agus Iar Lár

TUS Research

Allied Healthcare Student Learners' Professional Values and Behaviours

Ella O'Connor, Barry Gorman, Lynn Allen

INTRODUCTION

The professional values and behaviours of allied healthcare student learners' is relatively unknown. Current research focuses on qualified professionals and overlooks the student. Professional values and behaviours play an important role in delivering the best patient care. Therefore, by establishing them early on in a students education, it may encourage ethical practice and evidence based treatments.[1]

Professional values can be defined as a group or individuals moral, ethical and beneficial beliefs, which can develop differently depending on the environment.[2]

AIMS

Establish allied healthcare student learners' professional values and behaviours.

Identify strategies of how professional values and behaviours can be implemented into course curriculums.

Gain an understanding of how professional values and behaviours can help prepare students for clinical experiences.

METHODS

Participants
Males and females aged 18 years and over Had to be current students studying an undergraduate or postgraduate degree in either Athletic Therapy/Training, Physiotherapy, Nursing or Midwifery

Recruitment for the study was carried out through email, posters and social media.

Study Design
The study was a cross sectional study and questionnaire based

Data Collection
The questionnaire in this study was adapted from the validated study by Schlechtbach et al., (2023)[3] A list of professional values and behaviours were taken from the study and compiled into a questionnaire. The questionnaire was administered electronically through Microsoft Forms. A Likert scale was used as the psychometric measure.

RESULTS

Study Characteristics

106 Participant s

- 88 Athletic Therapy/Training
- 12 Physiotherapy
- 6 Nursing

Highest and lowest rated professional values:

Exploratory factor analysis of professional values revealed two factors the professional values could be loaded on to:

Factor 1 resulted in strong loadings such as 'competence, professionalism and integrity'.
Factor 2 loadings resulted in PV such as 'empathy, caring and compassion and patient centred care'.

Highest and lowest rated behaviours:

Spearman's rank correlation test resulted in a strong, positive correlation between the following values and behaviours:

- CARING AND COMPASSION ⇒ MY BEHAVIOUR IS MOTIVATED BY THE BELIEF THAT THE PATIENT IS VALUED
- RESPECT ⇒ I TREAT MY PATIENTS WITH FAIRNESS AND RESPECT
- EMPATHY ⇒ I CARE FOR OTHERS AND THEIR WELL-BEING

DISCUSSION AND IMPLICATIONS

By establishing allied healthcare student learners' professional values and behaviours, it reveals the areas that need more attention.

This may be addressed by incorporating modules or assessments into course curriculums to address specific values and behaviours.

Low rated professional values such as autonomy, evidence based practice and teamwork may reflect the lack of clinical experience or confidence.

Similarly, the lowest rated behaviours involving critical thinking, ethical decision-making, and evidence-based practice may have reflected the limited opportunities to demonstrate these skills.

Professional values and behaviours may be integrated into students' education through case studies, practical assessments or self-reflective exercises[4]

Evidence-Based Practice ⟷ Practical class where students demonstrate their knowledge of existing practices

CONCLUSION AND FUTURE RECOMMENDATIONS

Understanding the professional values and behaviours of students can help create strategies to integrate these early on in their education.

Continued research is needed to investigate the professional values and behaviours of allied healthcare student learners as practice is forever evolving.

By expanding the research to include more allied healthcare professions, it may provide a deeper insight into the professional values and behaviours of different allied healthcare students. Finally, the questionnaire may be frequently revised and validated to keep up with the changes in healthcare and keep it relevant to current practices.

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TUS Technological University of the Shannon: Midlands Midwest
Ollscoil Teicneolaíochta na Sionainne: Lár Tíre agus Iar Lár

TUS Research

An Evaluation of a Student-Led Sports Injury & Rehabilitation Clinic in a University Setting

Ciarnad O'Donovan & Dr. Lewis King
Department of Sport and Health Sciences, Technological University of the Shannon: Midlands Midwest

INTRODUCTION

Student-led clinics (SLCs) give students the opportunity to **gain practical experience** and develop clinical skills under the supervision of medical professionals[1]

SLCs provide patients accessible, **low-cost high-quality healthcare services[2]** while giving students hands-on experience

SLCs **encourage the development** of various skills across different medical professions, such as athletic therapy, nursing and medicine[3]

Despite growing literature, **little research exists** to date into patient satisfaction and the influence SLCs have on student learning

AIMS

Evaluate both student athletic therapy (AT) and patient experiences of the SLC run in the Technological University of the Shannon: Midlands

Understand the factors that influence patient satisfaction and investigate overall learning experiences of student ATs

METHODS

PARTICIPANTS

27 student ATs
15 patients

2nd year = 11
3rd year = 5
4th year = 11

STUDY DESIGN

Cross-sectional study design using a questionnaire to learn the experiences of patients and student ATs of the START clinic in TUS Athlone

DATA COLLECTION

Questionnaire consisted of a series of questions based on the experiences of the START clinic

Designed from multiple validated questionnaires and surveys[4,5,6]

Combination of Likert scale, multiple choice and open ended questions

Different sets of questions for student ATs and patients

Scan here to see the descriptive statistics

DATA ANALYSIS

Quantitative: Means, SDs, Medians, IQRs
Qualitative: Thematic Analysis[7]

Mixed-methods approach provides a more comprehensive and in-depth understanding of the data

QUANTITATIVE RESULTS

STUDENT ATs

Benefits of the START Clinic

- 25 Gain clinic experience
- 23 Direct engagement with patients
- 18 Supportive environment with supervision

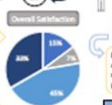
Skills Improved

- 22 Clinical skills
- 20 Communication skills

Challenges of the START Clinic

- Communication with patients
- Patient confidentiality
- Availability of supervisors
- Time management
- Prescribing treatment/rehab

Overall Satisfaction



PATIENTS

How Patients Heard of the SLC

- 7 Friend or classmate
- 2 Staff or lecturers
- 2 Email
- 4 Other

Reservations of an SLC

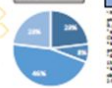
- 6 Yes
- 9 No

Unsure of the knowledge the students may have

Positive/Negative Aspects

- Students actively listening
- Supervisor/student relationship
- Clear communication
- Large no. of students involved
- Over-reliance on supervisors

Overall Satisfaction



QUALITATIVE RESULTS

STUDENT ATs

- Students reported facing challenges due to lack of confidence, knowledge and inexperience
- Recommendations: more supervisors and reduced no. of people in assessment

PATIENTS

- Convenience and free access was the main reason for choosing the clinic
- Advice: be more confident, ask more concise questions and give more clear explanations

DISCUSSION

SLCs are **highly beneficial** to student learning and development

Provides authentic learning experiences, encourages skill development and collaboration with supervisors[2]

Despite SLCs having many benefits for students, **challenges also exist**

Patient confidentiality and prescribing rehab exercises more so than previous studies. Beneficial as it promotes problem-solving[8]

Although there is little research, satisfaction of patients with SLCs is predominantly positive[1]

Ensuring patients feel respected, having clear communication and an effective supervisor/student relationship increases patient satisfaction and likelihood of returning

CONCLUSION

- Many factors influence both patient and student satisfaction with SLCs
- Working in a real-life clinic environment enhances development as a clinician
- Future research is needed to further understand experiences of SLCs in larger populations and in other medical professions in Ireland and abroad

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TUS Technological University of the Shannon: Midlands Midwest
Ollscoil Teicneolaíochta na Sionainne: Lár Tíre agus Iar Lár

TUS Research

TUS

16 - 18 October 2025

CAATE
Commission on Accreditation of Athletic Training Education

Oral Research Presentations

Sponsored by the Commission on Accreditation of Athletic Training Education

1510 - 1520	**amateur Rugby Union players across a 2-year time period** Laura Power; University of Limerick
1520 - 1530	**Fall and injury incidence in Irish professional and amateur horseracing from 2016-2023** Alannah Reville; Dublin City University
1530 - 1540	**Women in Sport and Exercise Medicine – A Qualitative Investigations of Clinicians' and Athletes' Perceptions on the Position of Female Clinicians in Irish Sports Environment** Isis Schockaert; Technological University of the Shannon
1540 - 1550	**Question and Answer Period**


CATA
CANADIAN
ATHLETIC
THERAPISTS
ASSOCIATION

CANADIAN ATHLETIC THERAPISTS ASSOCIATION

ACADIA UNIVERSITY

Colin King,

PhD, CAT(C)

Presenter Disclosures:

- Vice President CATA - WFATT Executive Committee
- WFATT Board of Directors - CATA
- Program Director and Professor of BKin (Athletic Therapy Option) at Acadia University
- No financial interests in any frameworks, IP rights with respect to competency frameworks.

CATA Educational Standards

CATA oversees the certification process of Certified Athletic Therapists across the country. Athletic Therapists must complete an Athletic Therapy program at one of ten CATA-accredited institutions in Canada (currently 8 undergrad and 2 graduate-level programs) , including on-field and in-clinic practical training. Certification Candidates must hold a valid First Responder certificate and, after graduating, must successfully pass the National Certification Examination.

Program Accreditation Committee (PAC) - ensures that Athletic Therapy programs at CATA-accredited institutions meet the standards and requirements necessary to maintain their accreditation and to effectively educate candidates towards becoming certified.

CATA Competency Framework

165 Competencies organized across seven different competency roles:

- Athletic Therapy Expert
- Collaborator
- Communicator
- Leader
- **Scholar***
- Professional
- Health Advocate

CATA Competencies Within Scholar Competency Role

Preamble: As Scholars, athletic therapists demonstrate a lifelong commitment to excellence in practice through continuous learning and by teaching others. Athletic Therapists evaluate and use evidence-informed practice to guide decision-making. Athletic Therapists contribute to scholarship to benefit health outcomes, access and efficiency of healthcare, and the profession of athletic therapy.

1. Describe and differentiate between quantitative, qualitative, and mixed methods research designs.
2. Find best available evidence to answer a clinical question in athletic therapy practice by identifying key concepts and using appropriate keywords, subject headings, and limits to search relevant databases.
3. Critically appraise research design, statistical analyses, and levels of evidence to interpret and evaluate research that informs athletic therapy practice.
4. Use standard criteria or developed scales to critically appraise the structure, rigour, and overall quality of research studies for integration into athletic therapy practice.
5. Identify risk factors, causes, and types of injuries related to sport/activity based on contemporary epidemiological data.
6. Incorporate best available evidence into decision-making for injury prevention, assessment, management, and rehabilitation.
7. Interpret best available evidence (for example, reliability, sensitivity, and specificity) to select NMSK evaluation and diagnostic procedures.
8. Integrate subjective clinical outcome measures (for example, generic, disease-specific, region-specific, and health-related quality of life measures) into athletic therapy practice.
9. Integrate objective clinical outcome measures (for example, functional and instrument-based testing) into athletic therapy practice.
10. Integrate clinical practice guidelines into athletic therapy practice.
11. Regularly reflect on the use of evidence in athletic therapy practice for lifelong learning and professional improvement.
12. Educate health care professionals based on contemporary evidence and innovation related to athletic therapy practice.
13. Recognize knowledge gaps in professional encounters, and explore or generate focused questions that contribute to athletic therapy practice and health care delivery.
14. Contribute to the improvement of athletic therapy practice and/or health care delivery through ethical research and scholarly endeavours that facilitate knowledge creation, knowledge translation, and/or practice integration.
15. Follow ethical protocols (i.e., Tri-Council Policy Statement 2 [TCPS 2]) when conducting research.

Course Plan: BKIN Athletic Therapy
AT Start Year: 2025-2026

Year 1 - Fall	
KINE 1013	Foundations
KINE 1100	First Aid & CPR (Non-credit)
KINE 1213+1210L	Growth & Motor Development[1]
KINE 1413+1410L	Human Anatomy 1
BIOL 1853+1850L	Applied Human Biology 1
COMM 1013	Communication for Kinesiology
Year 1 - Winter	
KINE 1113	Research Methods in Kinesiology
KINE 1243	Historical Aspects of Physical Activity & Sport
KINE 1333+1330L	Care & Prevention of Athletic Injuries
BIOL 1863+1860L	Applied Human Biology 2
MATH 1253+1250L	Statistics 1

Year 2 - Fall	
KINE 2253	Sociological Aspects of Physical Activity & Sport
KINE 2413+2410L	Applied Human Physiology 1
2 Activity Labs[1]	1.5h each - these may also be taken in winter
6h	Electives[3]
**Apply for BKIN (Athletic Therapy option)*	
Year 2 - Winter	
KINE 2033+2030L	Biomechanics
KINE 2423+2420L	Applied Human Physiology 2
KINE 2433	Psychological Aspects of Physical Activity & Sport
6h	Electives[3]
**Students accepted into Athletic Therapy must take KINE 3400 before Year 3:*	
KINE 3400	First Responder Course (non-credit)[2]

Year 3 - Fall	
KINE 3013+3010L	Exercise Physiology
KINE 3100	Professional Development (non-credit)
KINE 3213+3210L	Motor Learning[1]
KINE 3413+3410L	A&R Intro and Lower Extremity
KINE 3063+3060L	Athletic Therapy Practicum 1
3h	Elective[3]
Year 3 - Winter	
KINE 3053+3050L	Human Anatomy 2
KINE 3363	Philosophy of Sport[1]
KINE 3423+3420L	A&R Upper Extremity
KINE 3073+3070L	Athletic Therapy Practicum 2
3h	Elective[3]

Year 4 - Fall	
KINE 4633	Senior Seminar
KINE 4853	Therapeutic Modalities
KINE 4113+4110L	Athletic Therapy Practicum 3
6h	Electives[3]
Year 4 - Winter	
KINE 4013+4010L	Training Methods
KINE 4843+4840L	A&R Axial Skeleton and Pelvis
KINE 4123+4120L	Athletic Therapy Practicum 4
6h	Electives[3]

Continuum of Competency Development at Acadia University

Scholar Competencies	Course(s) that Expose Students to the Competency	Competency Evaluation Methods	Continuum of Competency Development		
			Pre-Entrustable		Entrustable
			Novice	Advanced Beginner	Competent
1. Describe and differentiate between quantitative, qualitative, and mixed methods research designs.	KINE 1013, 1113, 2413, 2423, 3013, 3213, 4013, 4843	Theory - 1113 Formal Lab Reports - 2413, 2423, 3013, 3213 Assignments - 4843	KINE 1013, 1113	KINE 2413, 2423, 3013, 3213	KINE 4013, 4843
2. Find best available evidence to answer a clinical question in athletic therapy practice by identifying key concepts and using appropriate keywords, subject headings, and limits to search relevant databases.	KINE 1013, 1113, 2413, 2423, 3013, 3213, 4013, 4843	Theory - 1013, 1113 Formal Lab Reports - 2413, 2423, 3013, 3213 Assignments - 4843	KINE 1013, 1113	KINE 2413, 2423, 3013, 3213	KINE 4013, 4843
3. Critically appraise research design, statistical analyses, and levels of evidence to interpret and evaluate research that informs athletic therapy practice.	MATH 1253, KINE 1013, 1113, 2413, 2423, 3013, 3213, 4013, 4843	Theory - 1013, 1113 Formal Lab Reports - 2413, 2423, 3013, 3213 Assignments - 4843	MATH 1253, KINE 1013, 1113	KINE 2413, 2423, 3013, 3213	KINE 4013, 4843
4. Use standard criteria or developed scales to critically appraise the structure, rigour, and overall quality of research studies for integration into athletic therapy practice.	KINE 1013, 1113, 2413, 2423, 3013, 3213, 4113, 4843	Theory - 1013, 1113, 4113 Formal Lab Reports - 2413, 2423, 3013, 3213 Assignments - 4843	KINE 1013, 1113	KINE 2413, 2423, 3013, 3213	KINE 4113, 4843
		Theory - 3413, 3423, 4843, 4853			

AT Expert | Professional | Collaborator | Communicator | Scholar | Leader | Hea

Ready Accessibility: Investigate

EPA 1 – Employ techniques and procedures of a comprehensive neuromusculoskeletal evaluation for common athletic injuries/illnesses

En y

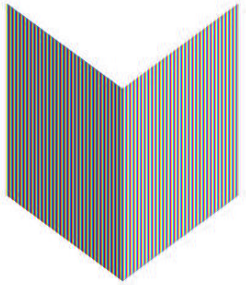
	Pre-Entrustable	Entrustable
Entrustable Behaviours	The learner: • Misses pertinent details (subjective or objective) that would assist with problem solving and/or determining potential indices of suspicion • Performs an examination which is disorganized and/or missing components (as outlined above) relevant to the clinical case • Performs inadequate physical examination skills that are appropriate to the clinical case. • Fails to establish rapport with the patient • Fails to integrate the scientific foundations of evidence informed practice	The learner: • Obtains appropriate details (subjective and objective) that assist in problem solving and identifying potential indices of suspicion • Performs an examination appropriately tailored to the clinical case. • Demonstrates specific physical examination skills that are appropriate to the clinical case. • Establishes rapport with the patient. • Integrates the scientific foundations of evidence informed practice

Challenges and Opportunities at Acadia University

As an undergraduate program in a primarily undergraduate liberal arts institution, we have restrictions on the number of required core courses that we can mandate for our Athletic Therapy Option students

We offer additional scholar/research opportunities for students as electives that many AT students take advantage of (Directed Readings course, Independent Studies course, Undergraduate Honours Degree)

These additional opportunities have led to publications in peer-reviewed journals, and presentations at various provincial, regional, national, and international conferences



MOUNT ROYAL UNIVERSI

CATA CANADIAN ATHLETIC THERAPISTS ASSOCIATION

Dr Lynne Lafave

PhD, Dietitians of Canada member

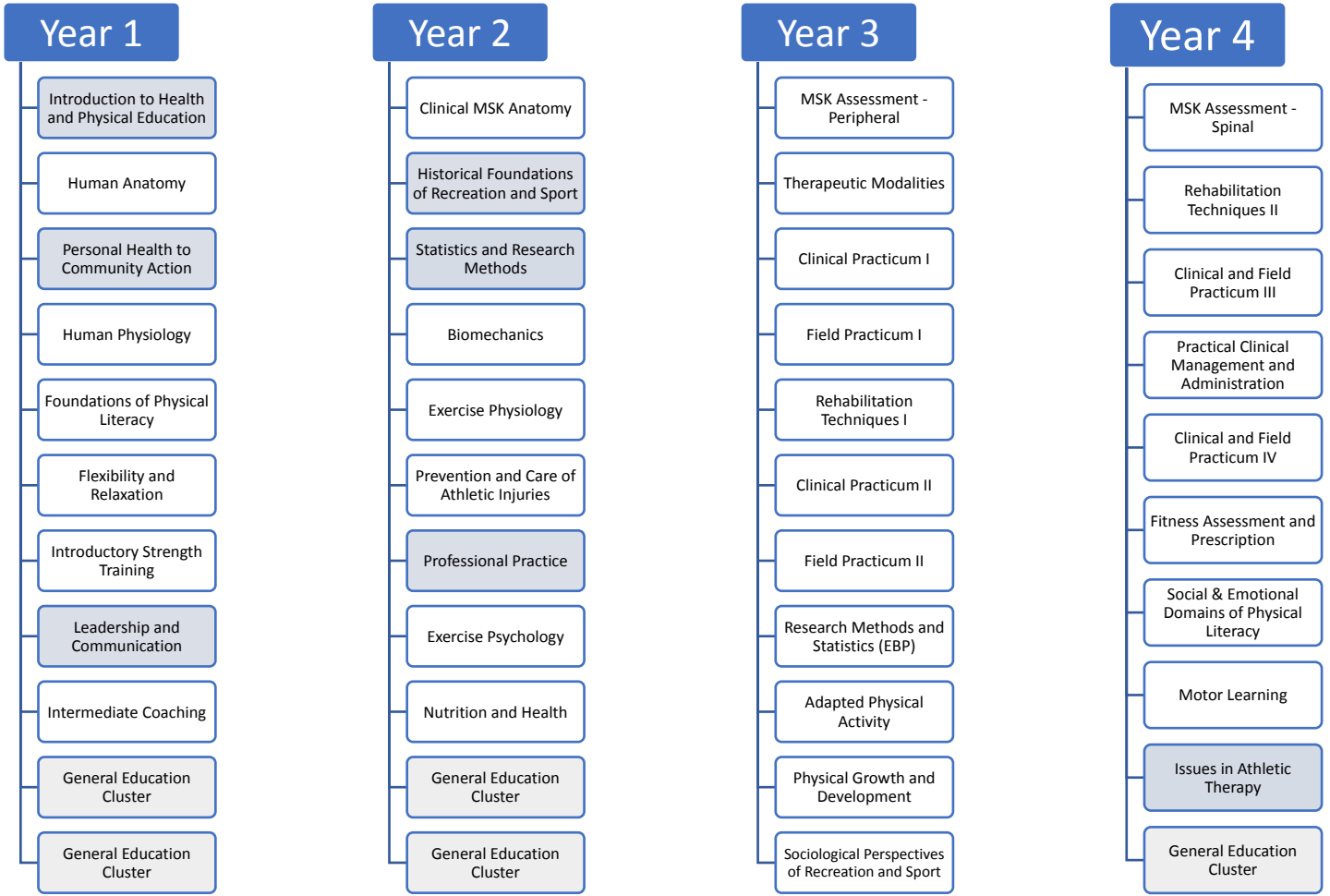
Presenter Disclosures:

- Professor in the Department of Health & Physical Education at MRU.
- Athletic Therapy and Physical Literacy programs
- Personal relationship with one of the co-presenters (partner)
- No financial interests in any frameworks, IP rights with respect to competency frameworks.

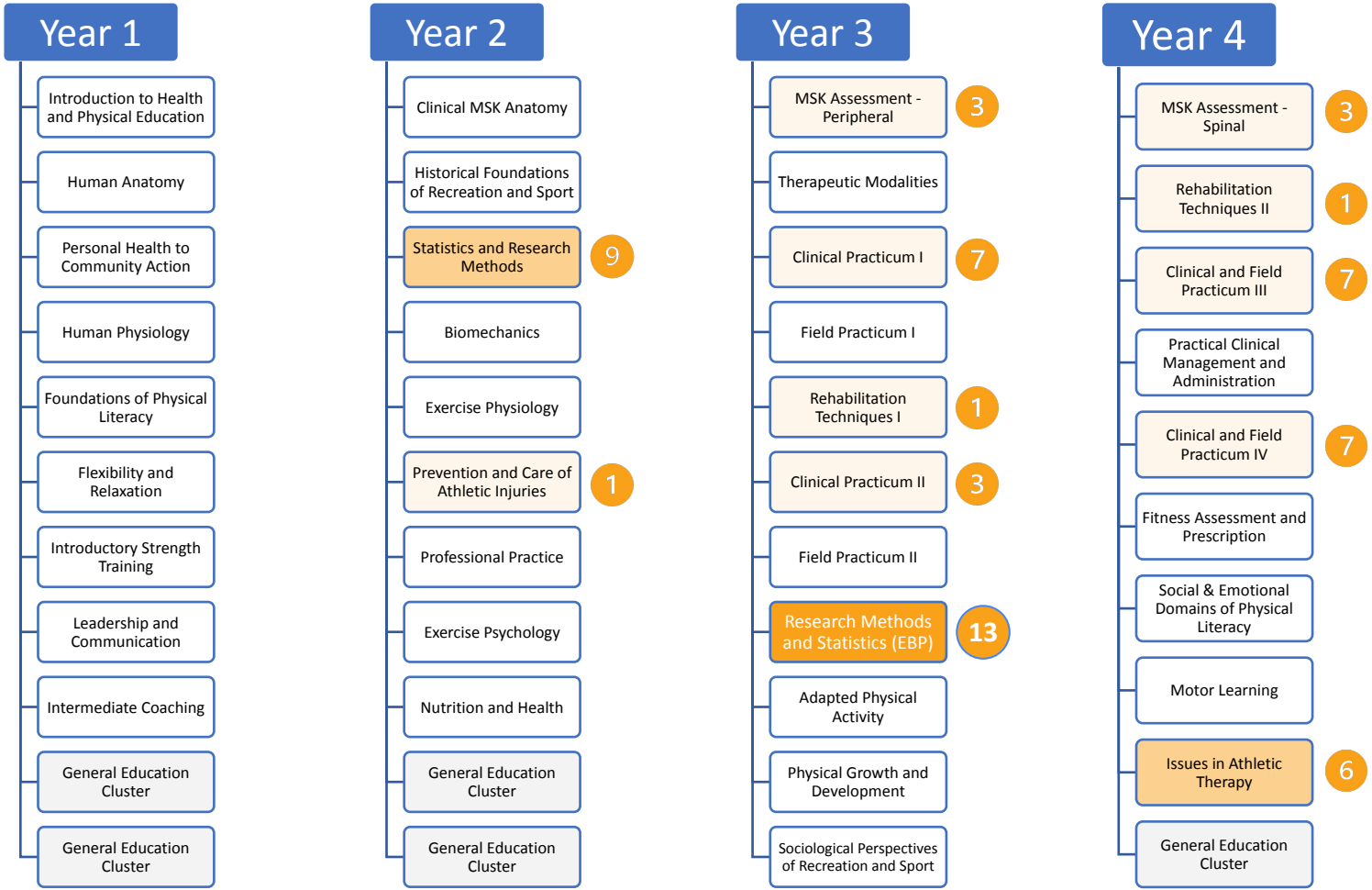
Scholar Competency Inventory by Course

Scholar	Course(s) Covered	Evaluation (see list)	Associated EPAs	Novice	Advanced beginner	Competent
1. Describe and differentiate between quantitative, qualitative, and mixed-methods research designs.	ATTH 2030	T				
	ATTH 3030	T, P				
2. Find best available evidence to answer a clinical question in athletic therapy practice by identifying key concepts and using appropriate keywords, subject headings, and limits to search relevant databases.	ATTH 2030	T				
	ATTH 3030	T, P				
	ATTH 5100	T, P, AA				
3. Critically appraise research design, statistical analyses, and levels of evidence to interpret and evaluate research that informs athletic therapy practice.	ATTH 2030	T				
	ATTH 3030	T, P				
	ATTH 5100	T, P, AA				
4. Use standard criteria or developed scales to critically appraise the structure, rigour, and overall quality of research studies for integration into athletic therapy practice.	ATTH 2030	T				
	ATTH 3030	T, P				
5. Incorporate best available evidence into decision-making for injury prevention, assessment, management, and rehabilitation.	ATTH 2030	T				
	ATTH 3030	T, P				
	ATTH 3150	AA				
	ATTH 3152	AA				
	ATTH 4150	AA				
	ATTH 4152	AA				
6. Identify risk factors, causes, and types of injuries related to sport/activity based on contemporary epidemiological data.	ATTH 2030	T				
	ATTH 3030	T, P				
7. Interpret best available evidence (for example, reliability, sensitivity, specificity) to select NMSK evaluation and diagnostic procedures.	ATTH 2030	T				
	ATTH 3030	T, P				
	ATTH 3110	T				
	ATTH 3150	AA				
	ATTH 3152	AA				
	ATTH 4150	AA				
	ATTH 4152	AA				
	ATTH 4110	T				
8. Integrate subjective clinical outcome measures (for example, generic, disease-specific, region-specific, and health-related quality of life measures) in athletic therapy practice.	ATTH 2030	T				
	ATTH 3030	T, P				
	ATTH 3110	T				
	ATTH 3150	AA				
	ATTH 3152	AA				
	ATTH 4150	AA				
	ATTH 4152	AA				
	ATTH 4110	T				
9. Integrate objective clinical outcome measures (for example, functional and instrument-based testing) in athletic therapy practice.	ATTH 2030	T				
	ATTH 3030	T, P				
	ATTH 3110	T				
	ATTH 3150	AA				
	ATTH 3152	AA				
	ATTH 4150	AA				
	ATTH 4152	AA				
	ATTH 4110	T				
10. Integrate clinical practice guidelines in athletic therapy practice.	ATTH 2030	T				
	ATTH 3030	T, P				
	ATTH 3130	T				
	ATTH 3150	AA				
	ATTH 3152	AA				
	ATTH 4150	AA				
	ATTH 4152	AA				
	ATTH 4130	T				
11. Regularly reflect on their use of evidence in athletic therapy practice for lifelong learning and professional improvement.	ATTH 2030	T				
	ATTH 3030	T, P				
	ATTH 3150	AA				
	ATTH 3152	AA				
	ATTH 4150	AA				
	ATTH 4152	AA				
12. Educate health care professionals based on contemporary evidence and innovation related to athletic therapy practice.	ATTH 2030	T				
	ATTH 3030	T, P				
	ATTH 5100	T, P, AA				
13. Recognize knowledge gaps in professional encounters, and explore or generate focused questions that contribute	ATTH 2030	T				
	ATTH 3030	T, P				
	ATTH 3150	AA				
	ATTH 3152	AA				

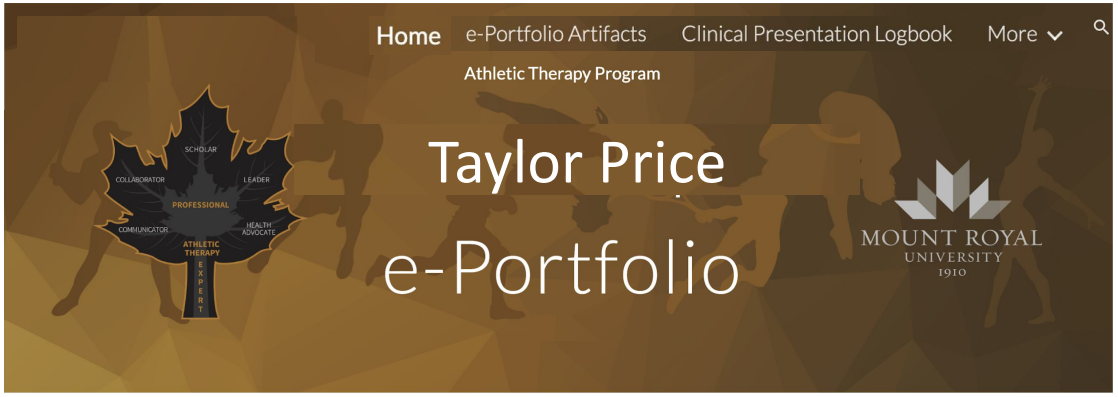
Undergraduate AT 4 yr program



Scholar Competency Inventory by Course



Scholar Competency

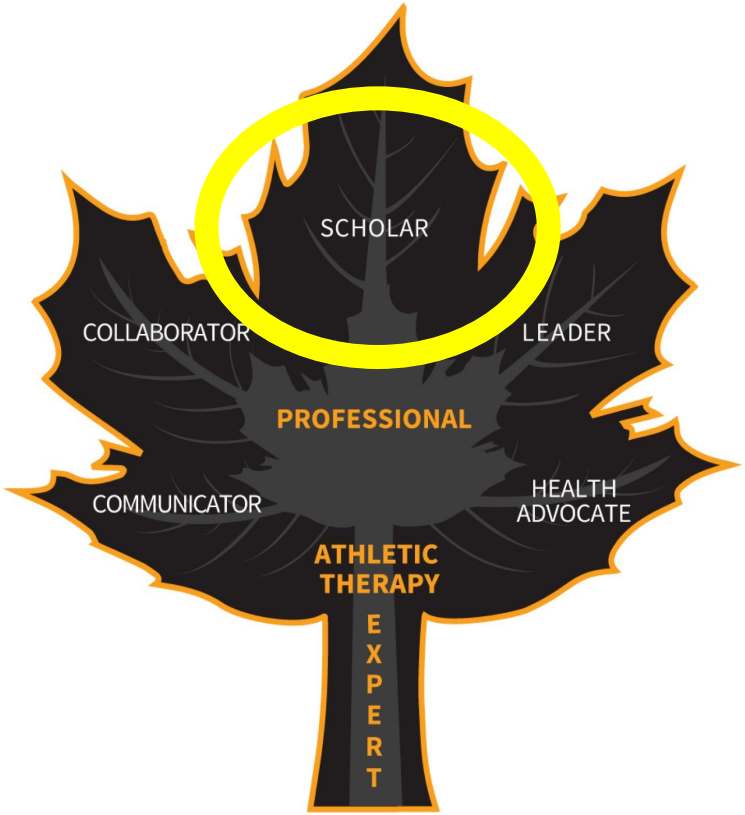


Add Headings and they will appear in your table of contents.

Introduction to the Template

This is the template that can be used for the Athletic Therapy Program e-Portfolio requirements. Generally, the e-Portfolio is an an electronic medium that houses artifacts that track competency development in the MRU Athletic Therapy Program. This is merely a template, and students should feel free to create or customize to your own personal needs or desires. There are certain educational artifacts that must be included in the template, but how this is put together is completely up to each student.

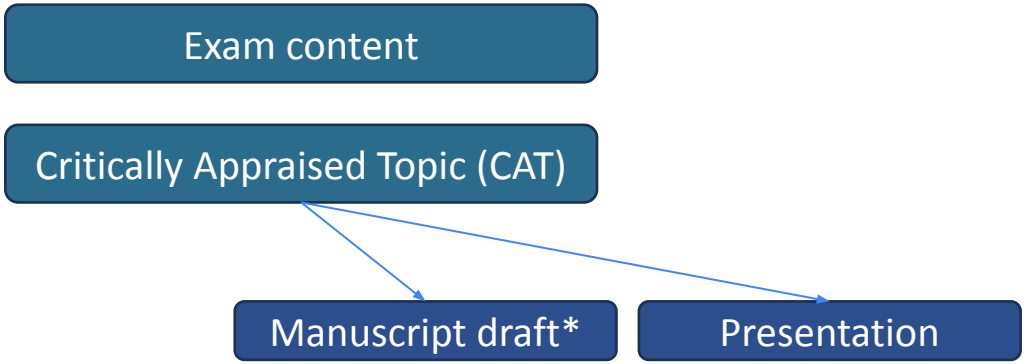
Scholar Competencies



HPED 3030 Topic	Scholar Competency
Evidence in Professional Practice	#11 & 13
Foundations of Research and Statistics	#3
Evidence-Based Practice	#5
Constructing a Clinical Question	#2 &13
Research Design	#1 & 6
Levels of Evidence	#5, 8, & 9
Finding Evidence	#5
Critical Appraisal	#3 & 4
Diagnostic Accuracy	#7
SPSS and Data preparation	#3 & 5
Correlation and Regression	#3 & 5
Inferential Statistics: parametric two grps	#3 & 5
Inferential Statistics: parametric three+ grps	#3 & 5
Critical Appraisal Project	#1, 2, 3, 4, 5, 6, 7, 11, 12, 13, & 14

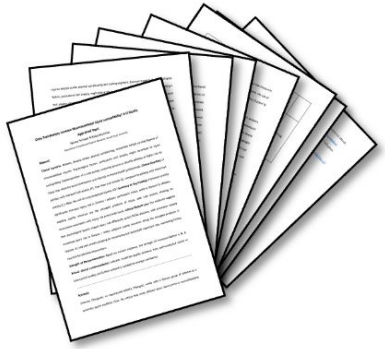
Assessment
of evidence-based practice knowledge and skills

EBP Framework

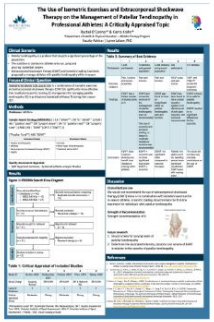


*International Journal of Athletic Therapy and Training

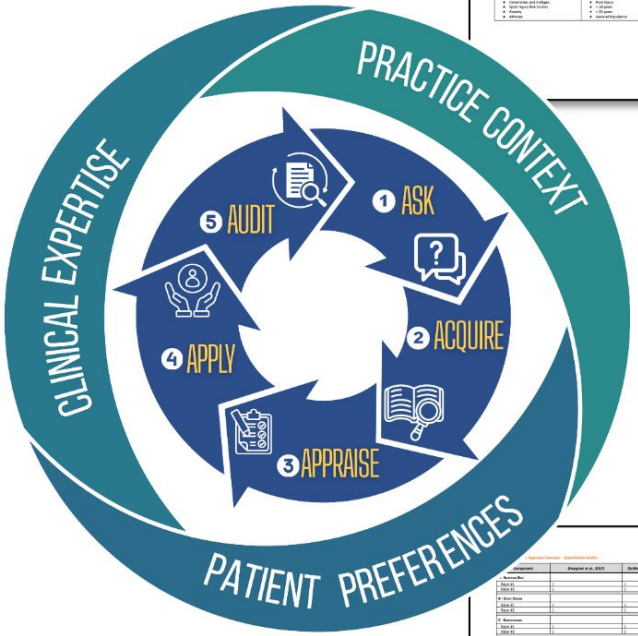
EBP Assessment



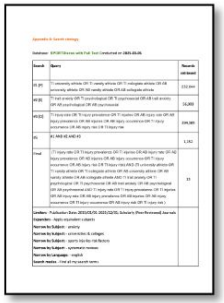
Manuscript



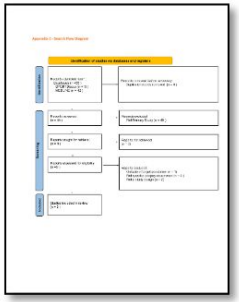
Presentation



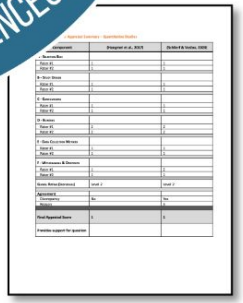
PICO Chart



Reproducible Search

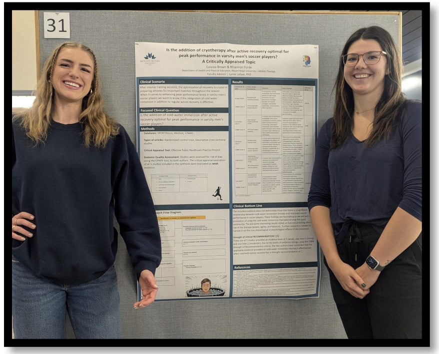


PRISMA Flow Chart



Appraisal Report

Research and Scholarship Days



The Use of Isometric Exercises and Extracorporeal Shockwave Therapy on the Management of Patellar Tendinopathy in Professional Athletes: A Critically Appraised Topic

Rachel O'Connor* & Kierra Krahn*
*Department of Health & Physical Education – Athletic Therapy Program
Faculty Advisor | Lynne Lafave, PhD

Clinical Scenario

- Patellar tendinopathy is a problem that impacts a significant percentage of the population
- The condition is common in athletes who run, jump and pivot eg. basketball players
- Extracorporeal shockwave therapy (ESWT) and isometric loading have been proposed to manage athletes with patellar tendinopathy while in-season

Focused Clinical Question

THERAPY/INTERVENTION QUESTION: Is a combination of isometric exercises and extracorporeal shockwave therapy (ESWT) (I) significantly more effective than traditional eccentric training (C) management for managing patellar tendinopathy (O) in professional basketball athletes (P) during their season (T)?

Methods

Databases: MEDline

Sample Search Strategy (MEDLINE): ((AB ("athlet*") OR TI ("athlet*")) AND (AB ("patellar tend*" OR "jumper's knee") OR TI ("patellar tend*" OR "jumper's knee")) AND (AB ("ESWT") OR TI ("ESWT")))

("Patellar Tend*") AND "ESWT"

Inclusion Criteria	Exclusion Criteria
• Patellar tendinopathy • Athletes • Extracorporeal shockwave therapy (ESWT) • English	• Animals • Other types of tendinopathy • Published before 2015

Quality Assessment Appraisal:

- QAT Appraisal Summary - Systematic/Meta-analysis Studies

Results

Figure 1: PRISMA Search Flow Diagram

Identification
Records identified from:
- Databases (n = 42)
  - MEDLINE #1(n = 15)
  - MEDLINE #2(n = 27)

Records removed *before screening*:
- Duplicate records removed (n = 15)

Screening
Records screened (title/abstract) (n = 27)
Records excluded
- Not primary study(n = 16)

Reports sought for retrieval (n = 11)
Reports not retrieved
- (n = 0)

Reports assessed for eligibility (n = 11)
Reports excluded:
- Research design (n = 6)

Included
Studies included in review (n = 5)

Table 1: Critical Appraisal of Included Studies

	1	2	3	4	5
Study ID	Burton, 2022	Challoumas, 2021	Charles, 2023	Chen, 2019	Stania, 2022
Study Design	Scoping Review	SR & MA	SR & MA	SR & Network MA	SR & MA
Level of Evidence	1	1	1	1	1
Critical Appraisal Score	Moderate	Strong	Moderate	Strong	Strong

*Abbreviations used: SR, Systematic Review; MA, Meta-analysis; QAT, Quality Assessment Tool; VISA, Victorian Institute of Sport Assessment; VISA-P, Victorian Institute of Sport Assessment – Patella ; VAS, Visual Analogue Scale

Results

Table 2: Summary of Best Evidence

	1	2	3	4	5
Participants	1,233 participants	74 athletes and general population	3,308 athletes and general population	430 participants	311 athletes
Outcome measure	Pain, function, and tendon properties	Pain and function	Pain and function	VISA* scale and pain scores	VAS* and VISA-P* scores for long-term outcomes
Findings	ESWT has a limited number of studies done on it	ESWT and concentric exercise for the management of patellar tendinopathy was not recommended The use of eccentric and isometric loading, or heavy to moderate resistance exercise was recommended	ESWT was found to have an insignificant effect on patellar tendinopathy pain and function	ESWT has been found to have unclear results in relation to its effectiveness of both pain reduction and functional improvements	ESWT is found to be safe for patellar tendinopathy ESWT resulted in no significant differences for the outcome
Conclusion	ESWT lacks evidence showing any benefit over resistance training within athletes	ESWT + eccentric was no more significant than sham ESWT + eccentric	ESWT not significant when compared to exercise therapies	Platelet rich plasma and dry needling proved more significant results than ESWT even with varying types	The study did not have any concrete conclusions on the use of ESWT

Discussion

Clinical Bottom Line

We would not recommend the use of extracorporeal shockwave therapy (ESWT) alone or in combination with isometric exercises for in-season athletes. Eccentric loading should remain the first-line treatment for individuals with patellar tendinopathy

Strength of Recommendation

Strength recommendation of A

Future research:

1. Should screen for varying levels of patellar tendinopathy
2. Determine the associated intensity, duration and volume of ESWT in relation to the severity of patellar tendinopathy

References

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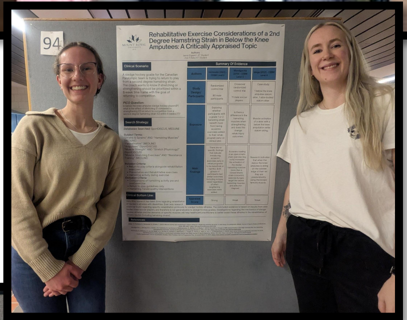
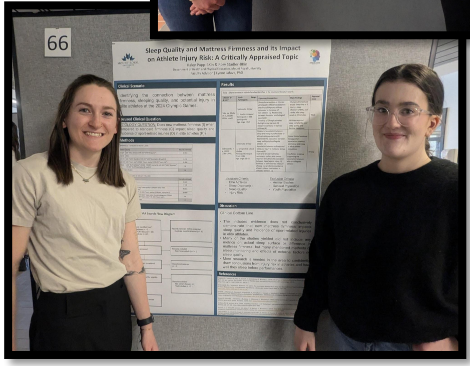
5. Stania, M., Król, T., Marszalek, W., Michalska, J., & Król, P. (2022). Treatment of Jumper's Knee with Extracorporeal Shockwave Therapy: A Systematic Review and Meta-Analysis. *Journal of Human Kinetics, 84*, 124–134. https://doi.org/10.2478/hukin2022-0089





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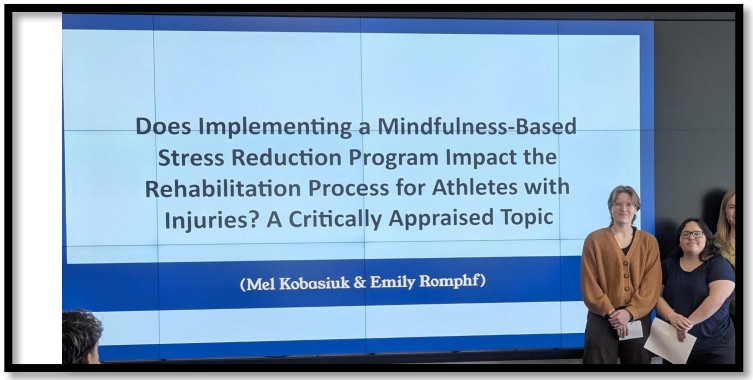
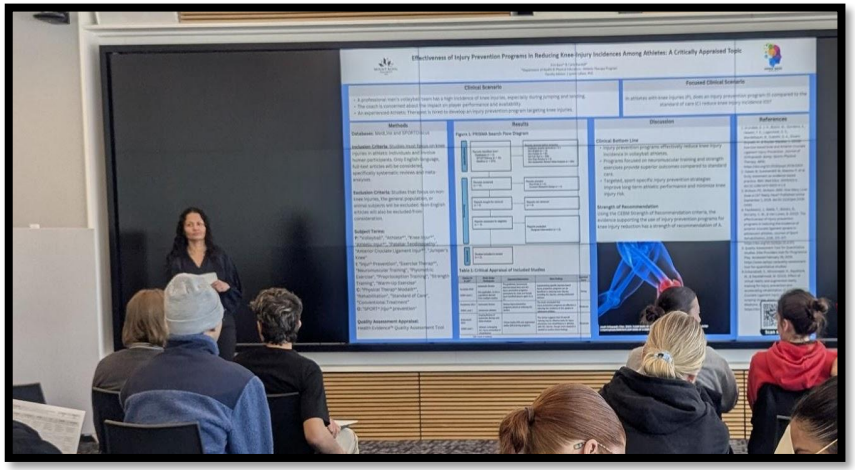




What are the Acute Effects of Short Intensive Self Myofascial Release (SI-SMR) on Vertical Jump Performance in Male Collegiate Athletes? A Critically Appraised Topic

Fatima Bhanji, Bella Brunet, and Lynne Lafave

Department of Health & Physical Education, Mount Royal University

Background

- Fascia is a connective tissue, that is integral for proper force transmission and protection against damage in muscles (Zhang et al., 2020).
- Stiffening of fascia contributes to muscle tightness and can lead to painful trigger points (Colonna & Casacci, 2024).

Self Myofascial Release (SMR) is a soft tissue therapy involving sustained pressure on connective tissue to reduce pain and improve range of motion (ROM) (Zhang et al., 2020).

- SMR is commonly performed with foam rollers to target muscle fascia and enhance tissue mobility (Martínez-Aranda et al., 2024).
- SMR can significantly improve ROM and flexibility without reducing strength or power (Martínez-Aranda et al., 2024).
- Variability in techniques, methodologies, and targeted muscles makes findings inconclusive (Martínez-Aranda et al., 2024).

Clinical Question

What are the acute effects of Short Intensive Self Myofascial Release (SI-SMR) (I) techniques on vertical jump height (O) in male collegiate athletes (P)?

Methods

Databases: A systematic literature search was conducted in SPORTDiscus and Medline.

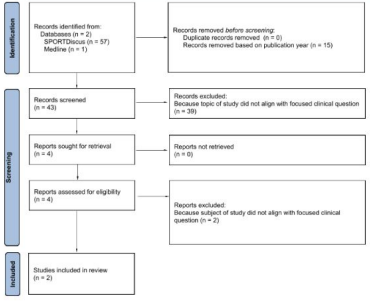
Critical Appraisal Tool:

- Effective Public Healthcare Practice Project

PIO Sample Search	(MH "Athletes" OR MH "University Athlet*" OR MH "Colleg* Athlet*" OR MH "Varsity Athlet*") AND (MH "Hamstring Muscles" OR MH "Quadriceps Muscle" OR MH "Muscle Tonus" OR AB "hamstring tightness" OR AB "Quadriceps tightness" OR AB "Muscle Tone" OR AB "Thigh Tightness" OR AB "Muscle Tightness") AND (AB "Myofascial Release Therapy" OR AB "Connective tissue*" OR AB "STRETCH reflex") AND (AB "Jump height" OR AB "plyometric performance" OR AB "muscular strength")

Inclusion Criteria	Exclusion Criteria
•English •Published within the last 10 years (2014) •Full text articles	•Not focusing on clinical question •Not focusing on varsity* athletes •Not focusing on the same muscle group •Not focusing on the same outcome

Results



Discussion

Citation ID	Gözübüyük, 2019	Shalamzari, 2022
Level of Evidence	CEBM Level 2	CEBM Level 2
Study Design	Randomized Control Trial, Cross-over design	Randomized Control Trial
Participants	22 healthy males	24 college-aged male athletes with hamstring shortness
Intervention	SMR (1-min) vs. Static Stretching (1-min) post-warm-up, 4 consecutive applications	Foam rolling 3x/week for 8 weeks vs. control (no intervention)
Main Findings	SMR improved force production for knee flexors and decreased the rate of contraction for knee extensors.	Foam rolling increased hamstring ROM, but had no effect on hamstring-quadriceps strength ratio.
Limitations	• Small sample sizes and male-only participants limit generalizability of findings to broader athletic populations. • Various SMR techniques and outcome measures decrease comparability of results between studies.	

Clinical Bottom Line

More research into the effects of short intensive self-myofascial release on vertical jump height performance is needed before conclusive clinical recommendations can be made.

Key Findings: Both interventions improved flexibility, but the effects on muscle strength and contraction speed varied.

Strength of Recommendation: Strong Level B Evidence to support the conclusion SI-SMR does not conclusively affect vertical jump height.

References

Gozubuyuk, O. B., & Yucesoy, C. A. (2019). Effects of roller massage and static stretching on thigh muscles. *Turkish Journal of Sports Medicine, 54*(3), 183–194. https://doi.org/10.5152/tjsm.2019.131

Hamzeh Shalamzari, M., Minoonejad, H., & Seidi, F. (2022). The effects of a self-myofascial release program on isokinetic hamstrings-to-quadriceps strength ratio and range of motion of the knee joint among athletes with hamstring shortness. *Journal of Sport Rehabilitation, 31*(4), 391–397. https://doi.org/10.1123/jsr.2020-0487

The Paper

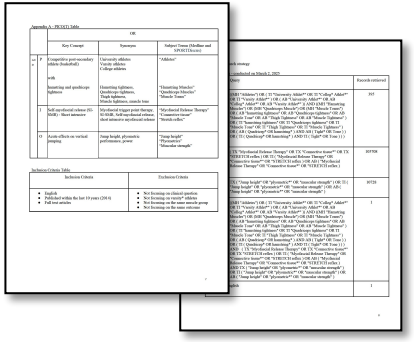
University Wide
2025 Group Research Excellence Award

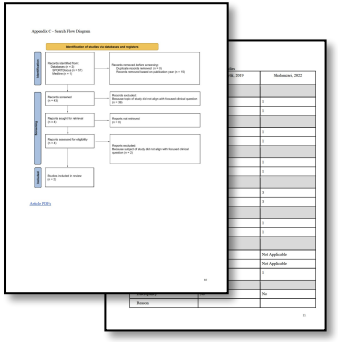
Fatima Bhanji and Bella Brunet - What are the Acute Effects of Short Intensive Self Myofascial Release (SI-SMR) on Vertical Jump Performance in Male Collegiate Athletes? A Critically Appraised Topic

Winners - Group Research Excellence Award

Bachelor of Health and Physical Education - Athletic Therapy

In their critically appraised topic, Fatima Bhanji and Bella Brunet explored the potential of Short Intensive Self Myofascial Release (SI-SMR) as a practical, performance-enhancing intervention for athletes. Working from a clinical scenario, the pair developed a focused research question that examined the effects of SI-SMR on vertical jump performance in male collegiate athletes. Their goal: to assess its real-world applicability and effectiveness, particularly in high-performance athletic settings where access to therapists is limited.





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Richard Moss
Dr Allan Munro

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Introduction - Richard Moss

- Presenter Disclosures
    - Associate Professor and Programme Lead in Sport Rehabilitation at University of Nottingham.
    - Accreditation Lead for BASRaT and member of the BASRaT Executive Office.
    - Lead author of the BASRaT Educational Framework and Review of Standards documentation in the UK.
    - No financial interests in any frameworks or IP rights with respect to competency frameworks.

Introduction - Dr Allan Munro

- Presenter Disclosures

  - Associate Professor and Programme Lead in Sport Rehabilitation at Liverpool Hope University.
  - Chair of BASRaT Board of Directors and Director of CPD.
  - Lead author of BASRaT CPD policy and Lead BASRaT CPD auditor in the UK.
  - No financial interests in any frameworks or IP rights with respect to competency frameworks.

UK Framework for Higher Education Qualification

Bachelor's degrees with honours are awarded to students who have demonstrated:

- a systematic understanding of key aspects of their field of study, including acquisition of coherent and detailed knowledge, at least some of which is at, or informed by, the forefront of defined aspects of a discipline
- an ability to deploy accurately established techniques of analysis and enquiry within a discipline
- conceptual understanding that enables the student:
  - to devise and sustain arguments, and/or to solve problems, using ideas and techniques, some of which are at the forefront of a discipline
  - to describe and comment upon particular aspects of current research, or equivalent advanced scholarship, in the discipline
- an appreciation of the uncertainty, ambiguity and limits of knowledge
- the ability to manage their own learning, and to make use of scholarly reviews and primary sources (for example, refereed research articles and/or original materials appropriate to the discipline).

Typically, holders of the qualification will be able to:

- apply the methods and techniques that they have learned to review, consolidate, extend and apply their knowledge and understanding, and to initiate and carry out projects
- critically evaluate arguments, assumptions, abstract concepts and data (that may be incomplete), to make judgements, and to frame appropriate questions to achieve a solution - or identify a range of solutions - to a problem
- communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

BASRaT Educational Framework

- The BASRaT Educational Framework document was first introduced in June 2011 and was updated to its 12th edition in September 2024.
- Nine evidence-based areas of skills and knowledge are outlined for inclusion by all BASRaT accredited programmes irrespective of academic level, including Academic Skills and Evidence-based Practise.
- This area of skills and knowledge focuses on evidence-based practise through;
    - the formation of technology-informed scholarly competencies including the use of artificial intelligence (AI) and machine learning (ML)
    - knowledge of research processes and methodologies
    - knowledge of ethical and moral considerations of research
    - reinforcement of the importance of contemporary evidence informing practise

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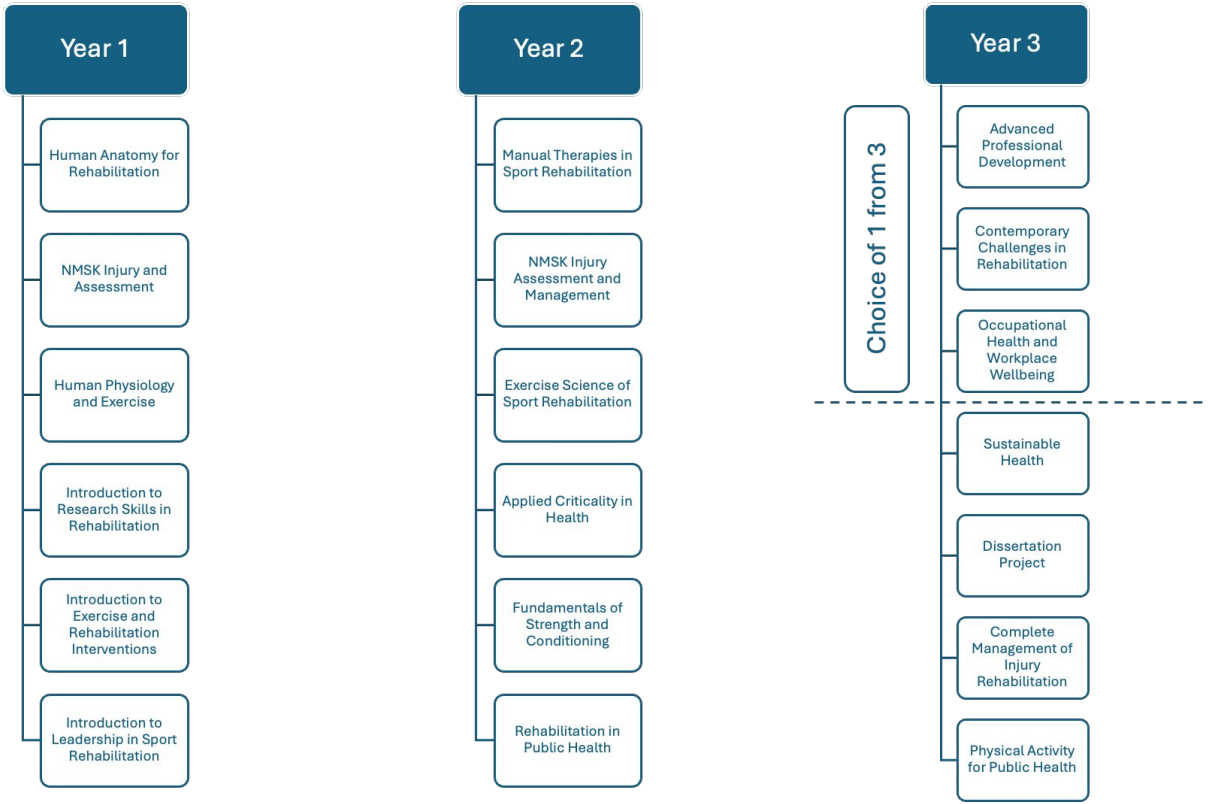

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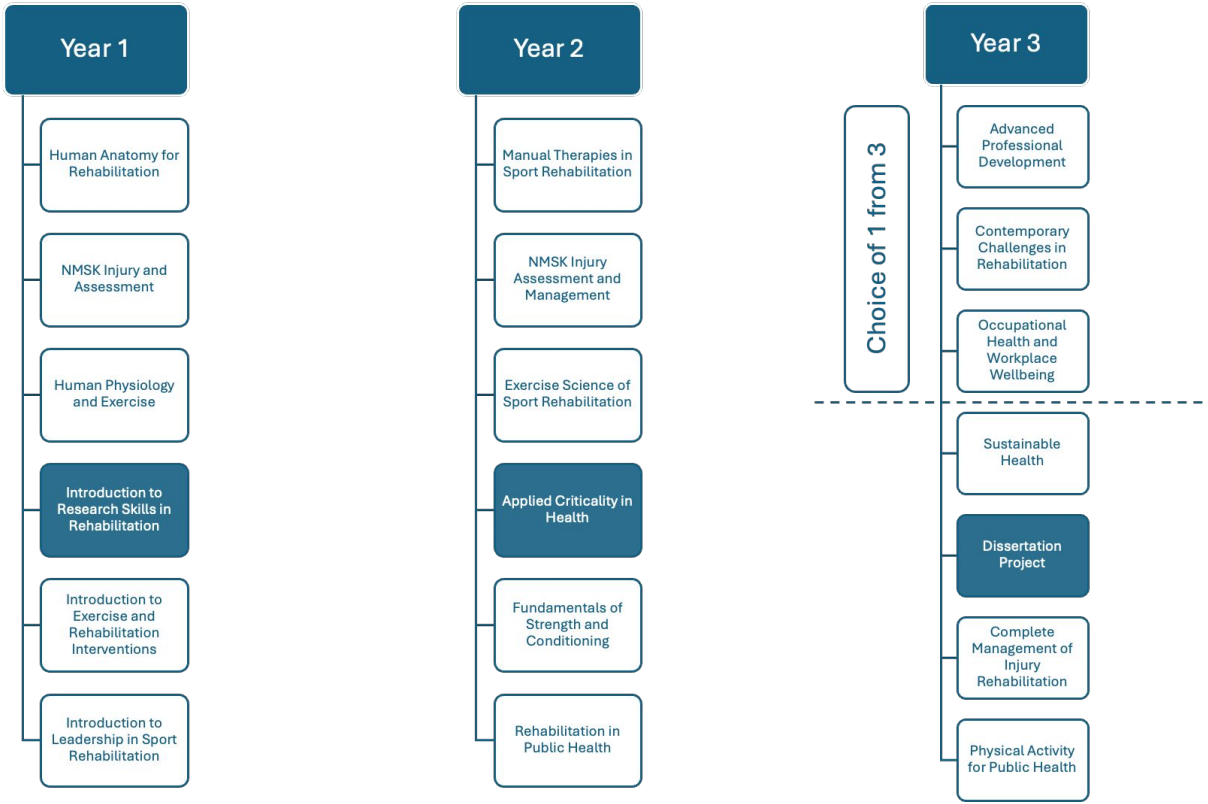

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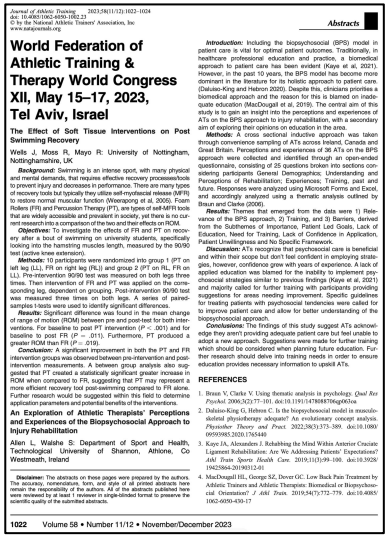
- The BASRaT Educational Framework also identifies that in the latter stages of each programme students produce an independent piece of academic evidence of sufficient quality to warrant its dissemination to others.
- This should be in a contemporary manner as expected of a published source of academic evidence or as an extended body of academic work.



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Abstracts

World Federation of Athletic Training & Therapy World Congress XII, May 15–17, 2023, Tel Aviv, Israel

The Effect of Soft Tissue Interventions on Post Swimming Recovery

Wells J, Moss R, Mayo R: University of Nottingham, Nottinghamshire, UK

Background: Swimming is an intense sport, with many physical and mental demands, that requires effective recovery processes/tools to prevent injury and decreases in performance. There are many types of recovery tools but typically they utilize self-myofascial release (MFR) to restore normal muscular function (Weerapong et al, 2005). Foam Rollers (FR) and Percussion Therapy (PT), are types of self-MFR tools that are widely accessible and prevalent in society, yet there is no current research into a comparison of the two and their effects on ROM.

Objectives: To investigate the effects of FR and PT on recovery after a bout of swimming on university students, specifically looking into the hamstring muscles length, measured by the 90/90 test (active knee extension).

Methods: 10 participants were randomized into group 1 (PT on left leg (LL), FR on right leg (RL)) and group 2 (PT on RL, FR on LL). Pre-intervention 90/90 test was measured on both legs three times. Then intervention of FR and PT was applied on the corresponding leg, dependent on grouping. Post-intervention 90/90 test was measured three times on both legs. A series of paired-samples t-tests were used to identify significant differences.

Results: Significant difference was found in the mean change of range of motion (ROM) between pre and post-test for both interventions. For baseline to post PT intervention ($P < .001$) and for baseline to post FR ($P = .011$). Furthermore, PT produced a greater ROM than FR ($P = .016$).

Conclusion: A significant improvement in both the PT and FR intervention groups was observed between pre-intervention and post-intervention measurements. A between group analysis also suggested that PT created a statistically significant greater increase in ROM when compared to FR, suggesting that PT may represent a more efficient recovery tool post-swimming compared to FR alone. Further research would be suggested within this field to determine application parameters and potential benefits of the interventions.

An Exploration of Athletic Therapists' Perceptions and Experiences of the Biopsychosocial Approach to Injury Rehabilitation

Allen L, Walshe S: Department of Sport and Health, Technological University of Shannon, Athlone, Co Westmeath, Ireland

Disclaimer: The abstracts on these pages were prepared by the authors. The accuracy, nomenclature, form, and style of all printed abstracts here remain the responsibility of the authors. All of the abstracts published here were reviewed by at least 1 reviewer in single-blinded format to preserve the scientific quality of the submitted abstracts.

Introduction: Including the biopsychosocial (BPS) model in patient care is vital for optimal patient outcomes. Traditionally, in healthcare professional education and practice, a biomedical approach to patient care has been evident (Kaye et al, 2021). However, in the past 10 years, the BPS model has become more dominant in the literature for its holistic approach to patient care (Dalusio-King and Hebron 2020). Despite this, clinicians prioritise a biomedical approach and the reason for this is blamed on inadequate education (MacDougall et al, 2019). The central aim of this study is to gain an insight into the perceptions and experiences of ATs on the BPS approach to injury rehabilitation, with a secondary aim of exploring their opinions on education in the area.

Methods: A cross sectional inductive approach was taken through convenience sampling of ATs across Ireland, Canada and Great Britain. Perceptions and experiences of 36 ATs on the BPS approach were collected and identified through an open-ended questionnaire, consisting of 25 questions broken into sections considering participants General Demographics; Understanding and Perceptions of Rehabilitation; Experiences; Training, past and future. Responses were analyzed using Microsoft Forms and Excel, and accordingly analyzed using a thematic analysis outlined by Braun and Clarke (2006).

Results: Themes that emerged from the data were 1) Relevance of the BPS approach, 2) Training, and 3) Barriers, derived from the Subthemes of Importance, Patient Led Goals, Lack of Education, Need for Training, Lack of Confidence in Application, Patient Unwillingness and No Specific Framework.

Discussion: ATs recognize that biopsychosocial care is beneficial and within their scope but don't feel confident in employing strategies, however, confidence grew with years of experience. A lack of applied education was blamed for the inability to implement psychosocial strategies similar to previous findings (Kaye et al, 2021) and majority called for further training with participants providing suggestions for areas needing improvement. Specific guidelines for treating patients with psychosocial tendencies were called for to improve patient care and allow for better understanding of the biopsychosocial approach.

Conclusions: The findings of this study suggest ATs acknowledge they aren't providing adequate patient care but feel unable to adopt a new approach. Suggestions were made for further training which should be considered when planning future education. Further research should delve into training needs in order to ensure education provides necessary information to upskill ATs.

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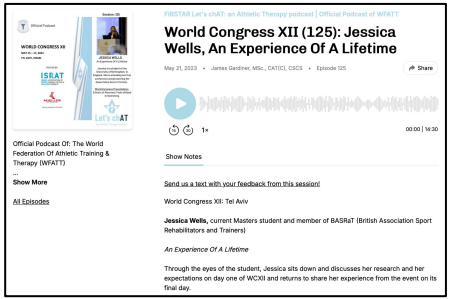

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World Congress XII (125): Jessica Wells, An Experience Of A Lifetime

May 21, 2023 • James Gardiner, MSc., CAT(C), CSCS • Episode 125

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World Congress XII- Tel Aviv

Jessica Wells, current Masters student and member of BASRaT (British Association Sport Rehabilitators and Trainers)

An Experience Of A Lifetime

Through the eyes of the student, Jessica sits down and discusses her research and her expectations on day one of WCXII and returns to share her experience from the event on its final day.

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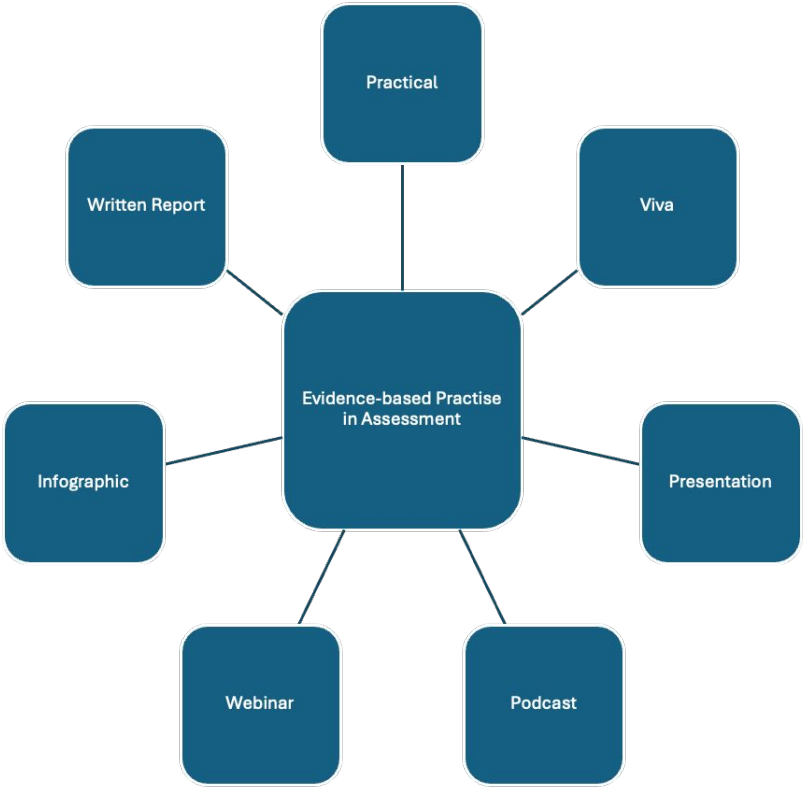

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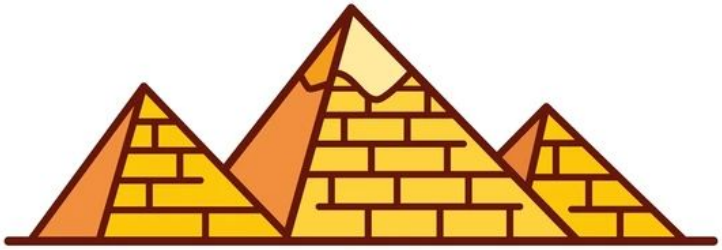

Year 1

Core studies in Sport & Exercise

Year 2

Explorations in Sport Rehabilitation

Year 3

- Dissertation
- Advances in Sport Rehabilitation

Placement Experience

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Year 1

Core studies in Sport & Exercise

Teaching

- Research methods
  - Quantitative & qualitative methods
  - Introduction to statistical methods
- Academic skills
  - Critical thinking
  - Academic writing
  - Academic skills self-audit

Assessment

- Research methods presentation
  - Understanding of research methods
- Academic & Personal Skills Portfolio
  - Self-audit and reflection
  - Participation in research

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Year 2

Explorations in Sport Rehabilitation

Teaching

- Research methods
  - Refresher
  - Research appraisal
  - Journal reviews
- Academic skills
  - Literature searching
  - Academic writing
- EBP
  - Clinical reasoning
  - Presentation of EBP in MSK management
  - Review clinical practice guidelines
  - Application to case studies & scenarios

Assessment

- Portfolio
  - Dissertation proposal presentation
  - Dissertation proposal literature review
  - RM MCQ
- MSK Case Study
- Training Programme Design
- Rehab Case Study

Scaffold application of EBP - provide key refs

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Year 3

- Dissertation
- Advances in Sport Rehabilitation

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Teaching

- Research methods
  - Dissertation
  - Ethics application
  - Online materials & supervisor support
- EBP
  - Injury mitigation
  - Data analysis & interpretation
  - Application of EBP - student-led

Assessment

- Dissertation
  - Research project
  - 8000 words
- Injury prevention Presentation & report
  - Presentation - critical analysis of injury prevention protocol
  - Report - critical appraisal of literature
- Reflective Practice Presentation
- Critical Analysis of Exercise in Special Populations

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Sarah A. Manspeaker, PhD, LAT, ATC, FNAP
Associate Professor, Department of Athletic Training

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Curricular Content Standards Relating to Evidence

#	Summary of Standard
62	Provide AT service in a manner that uses evidence to inform practice; align with Core Competencies
63	Use systems of quality assurance and improvement
64	Apply contemporary principles & practices of health informatics

DUQUESNE UNIVERSITY
John G. Rangos, Sr.
School of Health Sciences
Athletic Training

Scaffolding EBP Over Curriculum

Summer 1

Evidence-Based Concepts in Athletic Training

Basics of EBP Process

Disablement Models

Patient Reported Outcome Measures

Fall 1

Lower Extremity Evaluation & Treatment

Apply Evidence to Processes; Hierarchy of Evidence for Soft Tissue Tests; Integration of Patient Reported OUtcome Measures for Plan of Care

Spring 1

Research & Evidence Integration

CAT Format Design (500)

Hierarchy of Evidence for Upper Extremity Evaluation (503)

Fall 2

Work Independently on CAT While Engaging in Immersive Clinical Education Experience

Spring 2

Culminate in Presentation at Graduate Research Symposium

Award Winners Particularly for Those Partnered with Librarian for Literature Search Process (610)

Preceptor Rating on Milestones of Student Ability to Integrate EBP into Practice (612)

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Award Winners Particularly for Those Partnered with Librarian for Literature Search Process (610)

Preceptor Rating on Milestones of Student Ability to Integrate EBP into Practice (612)

Indicates Assessment and/or Milestone Rating

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Athletic Training

Athletic Training Milestones

Critical Deficiencies	***Level 1****	***Level 2***	***Level 3*** *(Ready for Unsupervised Practice)*	***Level 4*** *(Ready for Advanced Practice)*	***Level 5*** *(Aspirational)*
Behaviors are not within the spectrum of developing competence in EBP Significant deficiency in learner performance	Behaviors align with those of beginning learner; able to complete basic definition of PICO and full 5-step process of EBP Performance would require significant supervision and discussion	Behaviors reflect understanding of definition of PICO and full 5-step process of EBP Requires some level of supervision for consistent practice	Recognizes and accounts for patient details unique to applicable PICO and full 5-step process of EBP Appropriately modifies procedures based on patient unique characteristics, needs, and goals	Models professional interactions for patient details unique to applicable PICO and full 5-step process of EBP Models consistent respect for EBP including patient's unique characteristics, needs, and goals in relation to EBP.	Develops best practice guidelines for professional and patient interactions as related to PICO and EBP process. Develops procedures that support and respect application of EBP within all scenarios

Comprehensive framework to assess
knowledge, skill, & behavior acquisition among ATs

Sauers EL, Laursen RM, Pecha FQ, Walusz H. Athletic training milestones. Athletic Training Milestones Project. Published 2019. Accessed August 14, 2022. https://www.atmilestones.com/

Sample Duquesne University Student Products

International Journal of Athletic Therapy and Training, 2023, 28, 173-178
https://doi.org/10.1123/ijatt.2022-0070

Human Kinetics
CRITICALLY APPRAISED TOPIC

Efficacy of Helmet Use on Head Injury Reduction in Snow Sports: A Critically Appraised Topic

Kaelin Agar, LAT, ATC, NASM PES,[1] Spencer DeMedal, MS[1] Abbigail Delmonte, BS[1] Lauren Bell, BA[1]
Kyle Fisher, MS, LAT, ATC,[2] and Erica Beidler, PhD, LAT, ATC[1]
[1]Duquesne University, Pittsburgh, PA, USA; [2]House of Athlete, Weston, FL, USA

International Journal of Athletic Therapy and Training, 2021, 26, 89-95
https://doi.org/10.1123/ijatt.2020-0019

Human Kinetics
CRITICALLY APPRAISED TOPIC

Behavioral Tackling Interventions Decrease Head Impact Frequency in American Football Players: A Critically Appraised Topic

Ashley E. Evans,[1] Madeline Curtis,[1] Marguerite (Meg) Montjoy, MS, ATC,[2]
and Erica Beidler, PhD, LAT, ATC[1]
[1]Duquesne University; [2]The Steadman Clinic and Steadman Philippon Research Institute

DUQUESNE UNIVERSITY
John G. Rangos, Sr.
School of Health Sciences
Athletic Training

Disc Pathology Soft Tissue Test Hierarchy

Test	Benefits	Disadvantages	Evidence	Clinical Notes
Gold Standard: Magnetic Resonance Imaging (MRI)	Effective in identifying intervertebral disc lesions[1].	Expensive, requires equipment. Many detection of disc degeneration via MRI occur in asymptomatic patients[1].	Diagnostic accuracy: 0.97[2]; sensitivity: 0.72, specificity: 0.68[3]; true positive: 0.72, false positive: 0.33[3].	Diagnostic testing and assessment should be performed in addition[3]. MRI can show the annulus fibrosis, nucleus pulposus, spinal cord, spinal nerve roots, and vertebrae[1]. Must recreate pain for disc pathology[4].
Valsalva Test	Easy for patient to perform; good evidence for disc herniation.	Not always specific to disc pathology; can be dangerous for patient- see clinical notes.	Sensitivity: 0.73, specificity: 0.95[5]; Inter-rater reliability: 0.63[5]; PPV: 0.97, NPV: 0.62[5].	This evidence relates to herniated lumbar disc; also called Cecin's sign. Causes the pulse to lower, while there is an increase in venous pressure and decrease in venous return, so patients are susceptible to fainting[6]. Must recreate pain for disc pathology[4]. This test can also indicate possible tumor or osteophyte along spinal column.
Straight Leg Raise/ Lasegue's Test	May indicate disc pathology if reproduction of symptoms occurs before 70 degrees of flexion[4].	Can identify many conditions; not super specific for degree implications; poor evidence ; may be effected by tight hamstrings[6].	Sensitivity: 0.92, specificity: 0.28[1].	This evidence is regarding lumbar radiculopathy due to herniated disc. Specific pain must be recreated but it is still difficult to isolate disc issues from other related spinal pathologies[1,4]. This pain would

Integrating EBP: Comprehensive Assessment Pathways

Jim Mensch, PhD, LAT, ATC

UNIVERSITY OF SOUTH CAROLINA

USC AT Program Mission Statement

Interdisciplinary

1. Provide **interdisciplinary** approaches to medicine through designed clinical educational experiences for students in various settings and interactions with different healthcare professionals.

Evidence-based medicine

2. Teach students to access, interpret, and integrate relevant research into their clinical decision-making through didactic and clinical education that focuses on **evidence-based medicine**.

Professional development

3. Enhance the **professional development** of students through community engagement and recognize the athletic trainer's role as a healthcare provider within the larger context of a changing healthcare system.

701 UNDERSTAND

Students will learn to access, interpret, and integrate relevant research into their clinical decision making through didactic and clinical education that focuses on evidence-based medicine. By the end of this journey, each student is required to submit their research for dissemination at a professional conference, workshop, journal publication, or other approved venue by the research advisor. However, acceptance is NOT a requirement.

711 APPRAISE

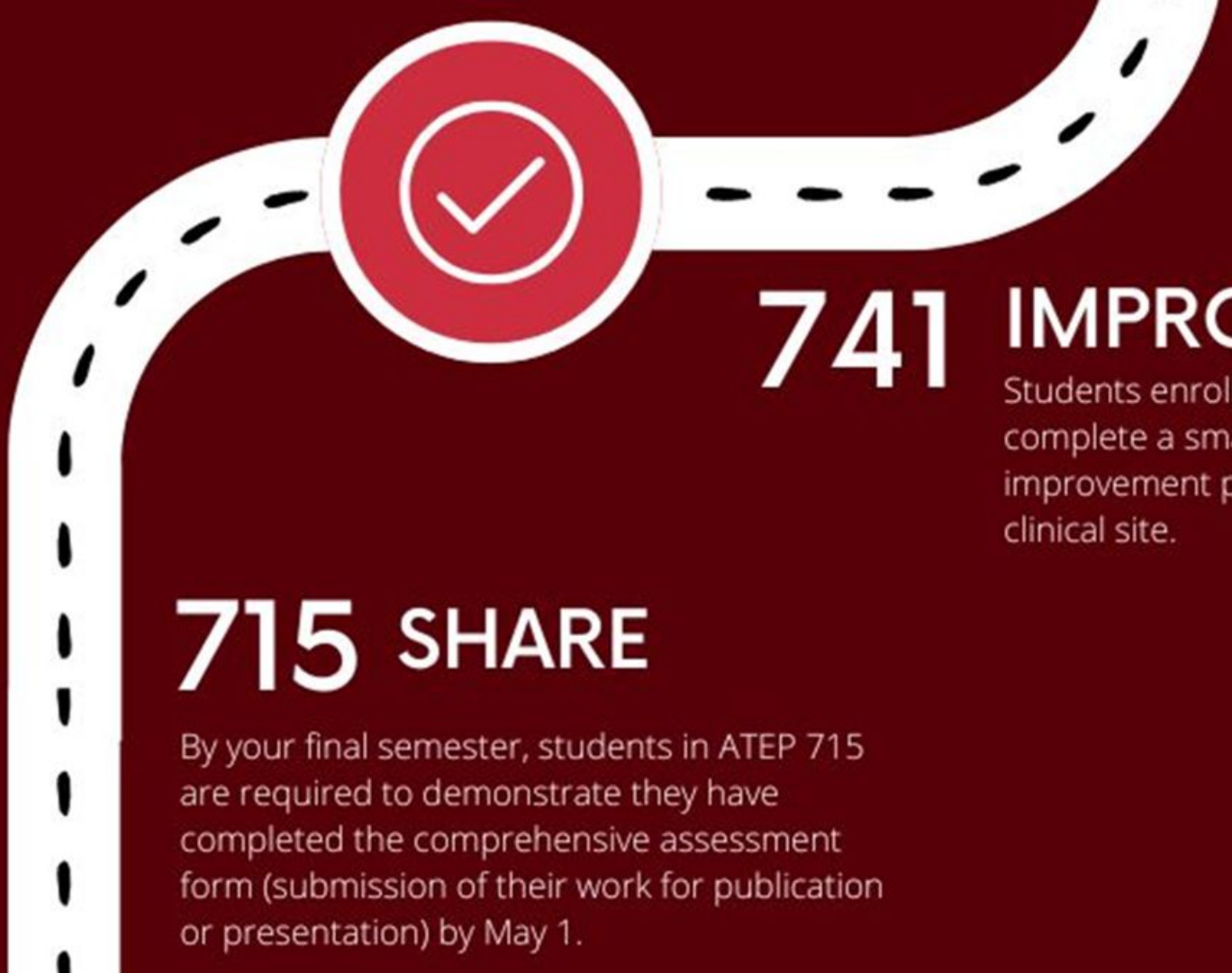
During 1st year Fall, students in ATEP 711 are required to create and present a Critically Appraised Topic paper.

749 EVALUATE

In the spring, students in ATEP 749 are required to create and present a disablement model case study that builds on on patient-centered care.

713 DEVELOP

During summer of the 2nd year in the AT program, students in ATEP 713 are required to find a professional conference or journal that accepts research submissions. Students are required to identify submission guidelines and create an abstract for submission, as well as a poster for presentation. The students will also engage in professional development by attending SCATA.



741 IMPROVE

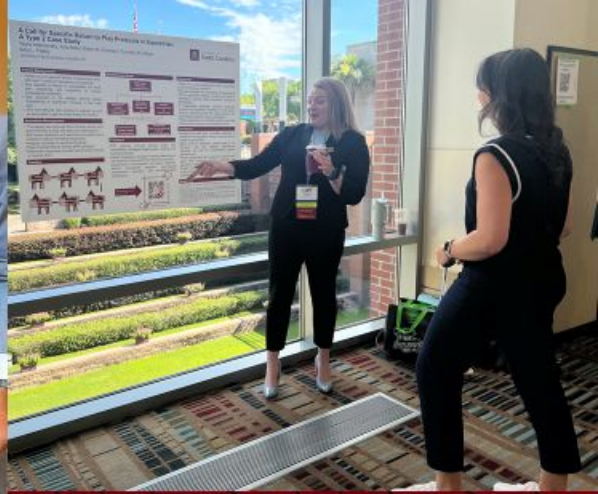
Students enrolled in ATEP 741 will complete a small group quality improvement project at their clinical site.

715 SHARE

By your final semester, students in ATEP 715 are required to demonstrate they have completed the comprehensive assessment form (submission of their work for publication or presentation) by May 1.


3


Room 236
FREE COMMUNICATIONS
Sponsored by
Thursday, June 22
7:30 a.m. – 8:25 a.m. Athletic Training Education
11:05 a.m. – 12 p.m. Help! I Need Somebody: Emergency Care
6 p.m. – 7 p.m. LGBTQ+ Town Hall
Friday, June 23
7:30 a.m. – 8:25 a.m. Brain Games: Understanding the Neurocognitive, Neuroplastic and Psychological Factors Associated with Musculoskeletal Injury and Rehabilitation
10:20 a.m. – 11:15 a.m. Identification and Care of Core and Upper Extremity Pathologies
3:15 p.m. – 5 p.m. AT Educ/ATionalist Town Hall
5:55 p.m. – 6:55 p.m. District 7 Business Meeting
Saturday, June 24
8:55 a.m. – 9:50 a.m. Therapeutic Interventions for Lower Extremity Injuries
11:45 a.m. – 12:40 p.m. Care and Return-to-Activity of Lower Extremity Conditions
NATA




8 ORAL PRESENTATIONS
1st Place:
Amanda Trujillo
2nd Place:
Abby Vurraro

The Effectiveness and Return-to-Play Outcomes Following Platelet-Rich Plasma Injections for Ulnar Collateral Ligament Injuries: A Critically Appraised Topic

UNIVERSITY OF South Carolina

Cameron J. Werme, Zachary K. Winkelmann, Kenya S. Moore, Amy L. Fraley

University of South Carolina, Columbia, SC

Introduction

UCL Structure and Role:

- Three tissue bundles stabilize the medial elbow, resisting valgus loads.[1]

Athletic Significance:

- Crucial for overhead athletes in baseball, football, tennis, etc.[2]

Baseball-Specific Risks:

- Pitching mechanics increase UCL injury risk, with stresses exceeding 32 N-m.[2]

Prevalence in Baseball:

- 25% of MLB pitchers undergo UCL surgery.[2,4]

Treatment Approaches:

- Nonsurgical for sprains, surgical reconstruction with tendon grafts for complete tears.[1]
- Emerging internal brace repair with inconsistent evidence.[1]

Recovery and Rehabilitation:

- High return-to-play rates (83%) with variable recovery times (12-30 months).[1,3]

Platelet Rich Plasma (PRP) Injections:

- Promising results in UCL injury cases, using the patient's blood to enhance natural healing processes.[1]

Focused Clinical Question

Are PRP injections effective at improving return-to-play (RTP) outcomes during rehabilitation in professional and semi-professional baseball players diagnosed with a UCL injury?

Methods

Literature search of PubMed and Google Scholar for "PRP injections" AND "Elbow UCL injury baseball"

Inclusion Criteria:

- Investigated PRP effects on outcomes for UCL injury
- Include professional or collegiate throwing athlete population
- Experimental or observational study design
- Published in English between 2013-2023

6 studies identified, 1 study not included due to focus on adolescent baseball population

Summary of Evidence

Study Authors	Mills et al.	Chauhan et al.	Kato et al.	Dines et al.	Podesta et al.
Study Title	Return to Play After Platelet-Rich Plasma Injection for Elbow UCL Injury: Outcomes Based on Injury Severity	Nonoperative Treatment of Elbow Ulnar Collateral Ligament Injuries With and Without Platelet-Rich Plasma in Professional Baseball Players: A Comparative and Matched Cohort Analysis	Can platelet-rich plasma therapy save patients with ulnar collateral ligament tears from surgery?	Platelet-rich plasma can be used to successfully treat elbow ulnar collateral ligament insufficiency in high-level throwers	Treatment of partial ulnar collateral ligament tears in the elbow with platelet-rich plasma
Participants	50 male (age 16-[illegible] years) throwing athletes with injury to dominant UCL, who previously underwent PRP therapy	544 professional baseball players, treated non-operatively for UCL injury	30 male professional/semi-professional baseball players with partial or complete UCL tears	44 professional, collegiate, and high-school baseball players treated with PRP for partial-thickness UCL tears (age [illegible] years)	34 athletes with partial-thickness UCL tears
Inclusion/ Exclusion Criteria	Inclusion: - Throwing athletes - Injury to UCL of dominant elbow - Received PRP treatment for UCL injury Exclusion: - Inability to follow up	Inclusion: - Professional baseball players - a diagnosis of UCL tear - Nonoperative treatment Exclusion: - Players with UCL tear diagnosis who underwent surgical intervention	Inclusion: - Diagnosis of UCL tear - Affected dominant arm - non-receptive to 2+ months of physical therapy Exclusion: - Previous injury/surgery/complications to elbow	Inclusion: - Baseball players (high school level or above) treated with PRP for partial UCL tear Exclusion: - None listed	Inclusion: - Failed 2+ months of nonoperative treatment - Failed RTP attempt Exclusion: - None listed
Outcome Measures	- % pop. with positive response to PRP and RTP without surgery	- % rate of RTP - Survey of MLB and MiLB team physicians	- # of participants to RTP at pre-injury performance, within 6 months of PRP - Average time of RTP - Average VAS and DASH - Average glenohumeral joint space	- # of players with excellent, good, fair, poor quality outcome - % RTP of professional players - Mean time from injection to return to throwing/RTP	- # of athletes to RTP at pre-injury performance - Average time for RTP - Average KJOC and DASH - Medial elbow jt. space w/ valgus vs neutral
Results	- 61.5% Type I and II tears - 100% Type III tears - 12.5% Type IV tears - 20% needed additional PRP, 3 able to RTP without surgery, 7 required surgery	- Overall, 54% RTP - PRP players had significantly longer delayed throwing/RTP Matched Cohort Analysis: - Players in the no-PRP group had a significantly faster RTP and throwing - Survival analysis did not reveal significant differences between groups over time	- Ultrasound guided PRP can be effective treatment for partial/complete UCL tear, specifically proximal tears - The use of this technique for complete UCL tears may allow more athletes to avoid surgery and enable them to return to play faster	- 15 excellent, 17 good, 2 fair, and 10 poor outcomes - 4 of 6 professional players RTP after injection - Mean time from injection to throwing 5 weeks - Mean time from injection to RTP 12 weeks	- 88.2% RTP to pre-injury performance - Average time to RTP 12 weeks - Average KJOC improved 47 points - Average DASH improved 23 points - Average medial elbow joint space with valgus decreased [illegible] - Average medial elbow jt. space stress vs. no-stress decreased [illegible]
Evidence Quality Score	22/22 (STROBE)	22/22 (STROBE)	21/22 (STROBE)	21/22 (STROBE)	22/22 (STROBE)
Level of Evidence	2/3	2/3	2/3	2/3	2/3
Support For Answer	Yes	No	Yes	Yes	Yes

Clinical Bottom Line

The findings suggest that in non-surgical cases of partial UCL tears (specifically proximal), PRP injections can be an effective supplementary treatment and improve RTP outcomes in collegiate and professional baseball players.

Strength of Recommendation: There is Level B evidence to suggest that PRP injections are an effective treatment for UCL injury that can improve RTP outcomes. This was determined by consistent results across 4 of the 5 studies, as well as the patient-oriented outcomes of these studies.

Implications for Future Education, Practice and Research

Clinical Practice Implications:

- Limited integration due to a lack of direct comparative studies.
- Patient awareness crucial; options, including surgical and non-surgical, should be presented for informed decision-making.

Patient Education on UCL Treatment:

- Crucial for patients with UCL injuries to understand treatment options, research, and associated factors.

Individual Patient Priorities:

- Patient concerns vary, with some emphasizing RTP and others focusing on full recovery or avoiding surgery.

Personalized Decision-Making:

- Tailor recovery and treatment recommendations to align with individual patient priorities and preferences.

Enhancing Evidence Application:

- To confidently apply the CAT evidence to real-world practice, further research is essential.

Comparative Research Need:

- Research comparing RTP and recovery outcomes between PRP and non-PRP treated groups is crucial for informed decision-making.

Consideration of UCL Injury Factors:

- Further research on the effect of location and severity of UCL injuries is necessary for better understanding and decision-making in incorporating PRP injections into treatment and rehabilitation.

References

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Diagnosis, Therapeutic Interventions, and Injury Risks of Buford Complex: A Type IV Case Study

Logan E. Bargeron*, Courtney M. Meyer*, Zachary Shepherd†, Amy L. Fraley*

*University of South Carolina, Columbia SC, †Dutch Fork High School, Irmo SC

UNIVERSITY OF South Carolina

What is Buford Complex?

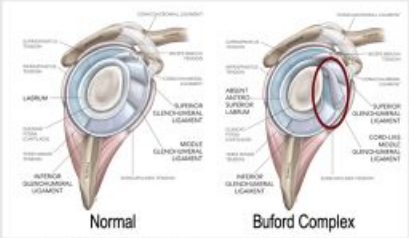

Figure 1: Buford Complex; right image is a normal shoulder, left shows the cord-like middle glenohumeral ligament (MGHL).[3]

Patient Information

- The patient in this case study is a 15-year-old white male high school football safety with a medical history that includes oligodontia, Osgood-Schlatter's, and multiple cases of nursemaid's elbow as a toddler.
- While performing bench press during weightlifting, he felt his shoulder "snap."
- At the onset of pain, the patient was attending physical therapy (PT) for hip flexor apophysitis and had no previous history of shoulder injury. His physical therapist evaluated his injury that day and requested that he see his athletic trainer (AT).
- The following day, the AT at his high school evaluated and referred him to an orthopedic physician. Positive special tests at the time included Neer, Hawkins, and SLAP.

Timeline

Figure 2: Case Timeline.

Differential and Final Diagnosis

- Differential diagnoses consisted of labral tear, glenohumeral instability, and shoulder impingement.
- Magnetic resonance imaging (MRI) determined the patient had an absent anterosuperior labrum and cord-like MGHL, leading to a diagnosis of Buford Complex.

Figure 3: Patient's MRI, showing the cord-like MGHL and leading to Buford Complex diagnosis.

Treatment

- Patient was not a candidate for surgery due to no secondary injury to the shoulder
- He was prescribed anti-inflammatory medication and PT.
- PT focused on strengthening shoulder musculature and improving glenohumeral (GH) stability.
- When starting PT, patient had normal GH range of motion, shoulder instability, and 7/10 pain with GH abduction, internal rotation, and external rotation.
- After 6 months, the patient's pain decreased to 1/10.
- The patient experienced frustration with the Buford Complex diagnosis due to a lack of surgical intervention and treatment options. He ultimately decided to no longer play football.
- The patient would have benefited from additional assessment of the mental implications and burden of this diagnosis.

Uniqueness

- This patient presented as if he had a labral tear, but imaging revealed that he had a rare variant of the shoulder anatomy, the cord-like MGHL.
- Risk for injury at the shoulder, including labral tears and posterior dislocations, is much higher due to the differences in shoulder anatomy presented.

Disablement Model

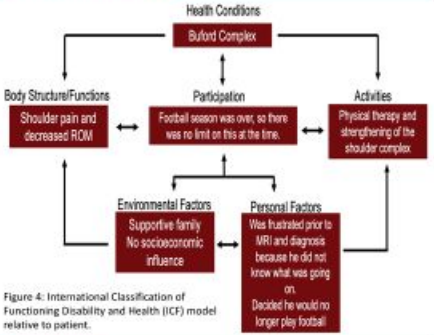

Figure 4: International Classification of Functioning Disability and Health (ICF) model relative to patient.

Conclusion

- Buford Complex diagnoses have been studied extensively in patients with concomitant shoulder injuries.[1,4]
- Treatment options available to this patient were different due to the non-acute nature of his diagnosis.
- Health professionals completed thorough assessments and practiced interprofessional collaboration, reducing risks of further injury.
- Patient experienced mental and emotional distress following the diagnosis, highlighting the importance of providing resources for the mental health aspects of injury.

References

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2. Benes M, Kachlík D, Kopp L, Kunz V. Prevalence of the anterosuperior capsulolabral anatomical variations and their association with pathologies of the glenoid labrum: a systematic review and meta-analysis. *Arch Orthop Trauma Surg*. 2023;143(10):6295-6303. doi:10.1007/s00402-023-04932-9
3. Mollac C. The Buford Complex. Sports Injury Bulletin. 2023. Accessed April 4, 2024. https://www.sportsinjurybulletin.com/diagnose--treat/the-buford-complex.
4. Cook A. Buford Complex in a High School Softball Player with Glenohumeral Multidirectional Instability and Cubital Tunnel Syndrome with Ulnar Nerve Subluxation. *Journal of Sports Medicine and Allied Health Sciences: Official Journal of the Ohio Athletic Trainers' Association*. 2023;8(4). doi:https://doi.org/10.25035/jsmahs.08.04.03

International Journal of Athletic Therapy and Training, (Ahead of Print)
https://doi.org/10.1123/ijatt.2022-0101

First Published Online: Aug. 21, 2023

Human Kinetics
CRITICALLY APPRAISED TOPIC

Fractures, Glycemic Control, and Bone Mineral Density in Females With Type 1 Diabetes Mellitus: A Critically Appraised Topic

Antoinette Lee, Nancy A. Uriegas, MS, SCAT, ATC, Morgan G. Adams, MS, SCAT, ATC, and Amy F. Hand, Ph.D., SCAT, ATC

Department of Exercise Science, University of South Carolina, Columbia, SC, USA

Clinical scenarios have risen where females with Type 1 diabetes mellitus (T1-DM), whose demographics are similar to their male counterparts, have sustained bone injuries, whereas the males with T1-DM have not. These scenarios bring into question the effect of T1-DM on various aspects of bone health and injury risk in females. The purpose of this study was to investigate the impact of T1-DM in females on their fracture risk, glycemic control abilities, and bone mineral density when compared to their male counterparts. Results were consistent across all studies, indicating that individuals with T1-DM had poor glycemic control abilities during ages within peak bone accrual, had significantly lower bone mineral density, and had a greater fracture incidence. Given these results, there is a need for future education to emphasize the importance of glycemic management, future research to investigate differences in physically active populations, and for clinicians to recognize their at-risk patients and take the necessary measures to prevent injury.

Keywords: metabolic control, peak bone accrual, energy availability, females

Key Points

- There is moderate evidence to suggest that females with Type 1 diabetes mellitus (T1-DM) have lower bone mineral density (BMD) and are at a greater risk for sustaining fractures over time.
- All studies found that individuals with T1-DM had poor glycemic control, especially during the age of peak bone accrual. Two of three studies investigating BMD found lower levels in individuals with T1-DM, while the third found no correlation when adjusting for height, weight, and body mass index. Both studies measuring fracture incidence over time found an

Gamekeeper's Thumb with Stener Lesion in a High School Football Player: A Disablement Model Case Study

Rachel M. Gordon, MS, LAT, ATC*; Amy F. Hand, PhD, SCAT, ATC*; Rebecca M. Hirschhorn, PhD, ATC, NRAEMT†; Allison B. Smith, PhD, LAT, ATC‡; Sonya J. Fuemmeler, MS, SCAT, ATC**
*University of South Carolina, Columbia, SC; †Louisiana State University, Baton Rouge, LA; ‡University of Louisiana at Lafayette, Lafayette, LA; **Hammond School, Columbia, SC

ABSTRACT

This disablement model case study outlines a unique thumb pathology of a high school football player in his non-dominant hand and will detail the benefits of quick referrals for patient with extreme laxity and swelling around the 1st metacarpal. Initially, the patient presented with laxity of the 1st metacarpophalangeal joint and swelling along the 1st metacarpal. Radiographs showed floating bone fragments in the first metacarpophalangeal joint indicating Gamekeeper's Thumb, an acute injury to the 1st metacarpophalangeal ulnar collateral ligament, complicated by a Stener lesion, requiring surgical repair. The patient was scheduled for surgery in the following week and was casted for four weeks which posed many physical, occupational, and social problems. Many 1st metacarpal injuries may present similarly making it important to be familiar with the structure and function of the 1st metacarpal and metacarpophalangeal joint and concomitant injuries that may occur in the surrounding area. A Stener lesion is often missed due to the evaluator assuming that the injury is a basic 1st metacarpophalangeal ulnar collateral ligament sprain. The best way to rule in or out the involvement of a Stener lesion is by radiograph; therefore, it is in the best interest of the athlete to refer for a radiograph anytime a grade III ulnar collateral ligament sprain of the 1st metacarpophalangeal joint is suspected. Furthermore, the main purpose of this paper is to detail the importance of a quick referral when there is little to no ability to use the thumb and the effects the lack of movement can have on a young student-athlete.

Correspondence
Rachel M Gordon, MS, LAT, ATC, 1300 Wheat Street, Columbia, SC 29208.

2025 NATA Foundation Student Writing Contest Winner

Carlos Rivera
UNIVERSITY OF SOUTH CAROLINA

CLINICAL PRACTICE RESEARCH

"Updating Secondary School Emergency Action Plans to Align with Best Practice: A Quality Improvement Project"

Mentors:
Dr. Zachary Winkelmann
Kanisha Jenkins
Jeffrey Sincavage

Gamecock AT

2025 NATA Free Communications Award Winner

Taisei Chiba
2ND YEAR PROFESSIONAL ATHLETIC TRAINING STUDENT

Paget-Schroetter Syndrome in a Collegiate Male Football Athlete: A Type 3 CASE Study

Co-Authors:
Dr. Amy Fraley
Courtney Meyer
Kelsey Hounshell


Cohort of 2025:
• 2 publications
• 12 NATA presentation acceptances
• 6 MAATA presentations
• 18 SCATA presentations
• NATA Student Writing Contest Award Winner
• ~75% of the cohort

Panel Discussion

Please come up to the microphone and pose your question to one or multiple speakers.