Norwich City have been a dominant feature in English football for many years. Founded in 1902 the club has spent several decades competing in top-flight professional football, either in the Premier League or the Championship. The Academy has a proud tradition of producing the vast bulk in home-grown talent and continues to be at the forefront of youth development in this country through its engagement with the Premier League’s Elite Young Player Performance Plan. The club has a strong reputation for supporting and developing its young players and this is officially recognised by Category One status, awarded by the Premier League. Category One status is extremely hard to achieve and takes real commitment from the club. Any football academies that have this status will be able to demonstrate the highest quality standard of coaching, equipment, facilities and strategic development that you can expect to find. Category One football academies invest a great deal of resources to maintain their status.

The professional practice is an essential part of the training programme for young elite athletes at the Norwich City Academy. Engagement with evidence-based practice is critical to ensuring that the medical management of your young footballers is appropriate, effective and efficient. However, despite a wealth of available evidence informing the management of the adult elite sporting population, the Norwich City Academy physiotherapy team identified that there is a limited body of quality research evidence available to support their practice with elite young athletes. Professional football in particular would benefit from developing this evidence-base further and partnership with a local university is recognised as a great way of bringing together the expertise from both institutions to tackle the research questions that have a real impact in the workplace.

The team have been working with HSC lecturer Jon Larner since 2011 to identify key topics to drive this agenda forwards.

The programme is a 2 year accelerated Master’s educational programme leading to eligibility to register with the HCPC to practice as a physiotherapist. Students enter the programme with a BSc degree at 2:1 or above. Former degrees may vary across the different sports science or sports therapy background. Lecturer Jon Larner is the Course Director for this programme.

In the second year of the programme at the UEA, students are offered the opportunity to join a member of faculty in identifying and answering a specific research question. This usually relates to work being done by the academics within the school, but may take the form of a literature review, service evaluation, secondary data analysis or actual empirical research.

By the end of the second year we expect students to:
- Be equipped to contribute to a culture of evidence within their profession and more widely in health and social care.
- Have had direct experience of the design and delivery of research so that they can make a significant contribution to developing and delivering the research agenda.
- Submit a 10,000 word research report (research dissertation).

The following list identifies the target of research highlighted through this partnership process to date:

**MSc Dissertation Titles** - submitted Nov. 2012:
- "Hydration and fatigue in elite youth athletes - A structured literature review." - Michael Burroughs.
- "What relationship exists between fatigue and injury in elite youth sporting populations - A structured literature review." - William Kamber.

**MSc Dissertation Titles** - submitted Nov. 2013:
- "Intrinsic risk factors for ankle sprains in football - A structured literature review." - Rose Glendinning.
- "Does musculoskeletal growth that occurs during adolescence increase the risk of injury in male adolescent footballers? - A structured literature review." - Louise Turner.

**MSc Dissertation Titles** - submitted Nov. 2014:
- "How does mental toughness and hardness influence injury prediction in academy football players? - A structured literature review." - Elizabeth Randall.
- "Is there a link between somatotype and injury in football? - A structured literature review." - Lauren Piper.
- "The time of calculating age at peak height velocity for predicting growth and maturation - A structured literature review." - Martyna Zilinska.
- "Evaluation of the effectiveness of the King Devick test for assessing concussion - A structured literature review." - Edward Colborn.

**MSc Dissertation Titles** - for submission Nov. 2017:
- "A literature review considering the use of the Reactive Strength Index on neuro-muscular fatigue in academy football players" - Jake Yeowell.
- "A literature review investigating the relationship between vitamin D levels and injury" - Daniel Harris.

**Research Partners:**

**Research Partnership Impact:**

- Damien Bowyer, Senior Academy Physiotherapist, Norwich City F.C.
- Michael Burroughs, London Scottish RUFC MSc Physiotherapy Graduate, 2012
- Rose Glendinning, Norwich City FC MSc Physiotherapy Graduate, 2013
- Jon Larner, Lecturer and MSc Course Director, UEA

Norwich City Football Club Academy

The relationship between Norwich City Football Club Academy and the University of East Anglia School of Health Sciences is a mutual benefit for students to undertake projects that are evidence driven and have the potential to make a real change in our players’ sporting career path. As a medical department with an ethos of ensuring our clinical interventions are evidence based wherever possible, the students are able to contribute to an ongoing research and evidence led culture.

As a department we have benefited in a number of ways. The key outcomes for us have been fostering and maintaining collaborative relationships with local students. Some students go on to undertake placements or sports therapy related work positions at the club. Ultimately the main benefit is the opportunity to adapt and constantly evolve our treatments / practices to ensure the best possible care for our players.

MSc Graduate Physiotherapist

- Rose Glendinning, Norwich City FC MSc Physiotherapy Graduate, 2013

MSc Pre-registration Physiotherapy Course Director, School of Health Sciences, UEA, Norwich, England.

The following list identifies the target of research highlighted through this partnership process to date:

- "Hydration and fatigue in elite youth athletes - A structured literature review." - Michael Burroughs.
- "What relationship exists between fatigue and injury in elite youth sporting populations - A structured literature review." - William Kamber.
- "Intrinsic risk factors for ankle sprains in football - A structured literature review." - Rose Glendinning.
- "Does musculoskeletal growth that occurs during adolescence increase the risk of injury in male adolescent footballers? - A structured literature review." - Louise Turner.
- "How does mental toughness and hardness influence injury prediction in academy football players? - A structured literature review." - Elizabeth Randall.
- "Is there a link between somatotype and injury in football? - A structured literature review." - Lauren Piper.
- "The time of calculating age at peak height velocity for predicting growth and maturation - A structured literature review." - Martyna Zilinska.
- "Evaluation of the effectiveness of the King Devick test for assessing concussion - A structured literature review." - Edward Colborn.
- "The effectiveness of the adductor squeeze test in preventing groin injury in academy level football players - A structured literature review." - Andrew Thomas.
- "A literature review investigating the use of the Reactive Strength Index on neuro-muscular fatigue in academy football players" - Jake Yeowell.
- "A literature review investigating the relationship between vitamin D levels and injury" - Daniel Harris.

Correspondence: J.larner@uea.ac.uk

**MSc Pre-registration Physiotherapy Course Director, School of Health Sciences, UEA, Norwich, England.**

The research dissertation looked at risk factors for ankle injuries in elite football. Having access to a huge pool of NCFC data allows us to easily transfer trends in the academic findings into our own environment. I was thrilled that we did go beyond my research title, I gave a real purpose to my work. Now working at Norwich City, it is part of my role to now transfer those techniques and knowledge on to our players. My dissertation was a window into the role of psychological injury prevention. This is a great aspect of the job that I did not necessarily consider when I first started my training. Regular meetings with the academy physiotherapy helped build an understanding as to how and when exactly could it be applied in practice. Presenting back to the medical profession with my research ideas was a real eye opener. In turn, the team were able to share the thought on the practical application of my findings, as well as areas they had been working into. This enabled me to become actively involved in a research community. It also gave me the opportunity to form invaluable professional connections.

I am now able to use a UEA student on our dissertation, as an extension of the research I did 4 years ago, I hope that I can pass on the knowledge I have gained in the process. It is very exciting to be on the other side of the door with regards to these projects and the impact that they can’t have on our clinical practice at the football club.

MSc Graduate Physiotherapist

- Liam Addison, London Scottish RUFC MSc Physiotherapy Graduate, 2012

**Research Partners:**

- Damien Bowyer, Senior Academy Physiotherapist, Norwich City F.C.
- Michael Burroughs, London Scottish RUFC MSc Physiotherapy Graduate, 2012
- Jon Larner, Lecturer and MSc Course Director, UEA

**MSc Graduate Physiotherapist**

- "A literature review to explore resilient personality variables that influence the stress-injury model." - Liam Addison (OT student)
- "Evaluation of the impact of targeted interventions to reduce the incidence of hamstring injuries in the elite academy population" (secondary data analysis) - Tom Uehara
- "A longitudinal case report on the potential effects of a three year programme of interventions on ankle sprain incidence in a Premier League football academy" (secondary data analysis) - Lucien Eremus

**MSc Dissertation Titles** - for submission Nov. 2017:
- "A literature review investigating the use of the Reactive Strength Index on neuro-muscular fatigue in academy football players" - Jake Yeowell
- "A literature review investigating the relationship between vitamin D levels and injury" - Daniel Harris

COULD THIS TYPE OF RESEARCH PARTNERSHIP WORK FOR YOU?

The Research Process:

- Lakatos (1970 p173) stated that “the generation of proof or evidence for or against a complete theory should not serve to close the issue but allow the theory to be modified or developed, or even abandoned if the process of trying to find proof for a procedure is successful for growth in knowledge and called them “research programmes”. This is a good description of real life research!

- The process of enquiry developed through this partnership starts with a problem or puzzle raised by the NCFC physiotherapists and other multi-sports science staff.

- This樊利方提出的p problem or puzzle is then discussed and developed and a plan to try and find proof for a procedure is developed.

- There is then a three-way discussion (as described by Mason, 2002), evolving the NCFC staff, the UEA supervisor (Jon Larner) and the student, in order to identify a more specific research question (which becomes their dissertation title). The supervision process is supported by periodic meetings with all parties to review progress. It culminates with a presentation of the findings back to the Norwich City medical team after the dissertation has been submitted and marked. There is emphasis on highlighting the potential for translation for the students to take this knowledge and/or recommendations that can be then identified and flagged up for future students to review. As such the students can continue to be part of developing research programmes.