ISPAR

Institute for Sport and Physical Activity Research

Conference | 2020

GETTING BACK ON TRACK

Moving forward from COVID-19 with sports performance, physical activity, health and well-being

PROGRAMME AND ABSTRACTS

University of Bedfordshire

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WELCOME

On behalf of the Institute for Sport & Physical Activity Research, welcome to the fifth Annual ISPAR Conference with the theme of 'Getting back on track'.

Our virtual conference this year will be presented across three days, showcasing the impactful research our staff and postgraduate students are engaged in within each of our research centres.

Day one will be hosted by the Centre for Health, Wellbeing and Behaviour Change, with a focus on 'Physical activity and behaviour change for the benefit of long-term conditions and psychological wellbeing'. Our experts in moving medicine will highlight the role of physical activity in cancer, arthritis, cardiac rehabilitation, cardiometabolic health, diabetes management, glycaemic control, weight management, and in supporting those who have been bereaved or who are living with mental health concerns, covering a range of populations and considerations since COVID-19.

We will also showcase our UoB Exercise Clinic, where we support individuals from the local community with their long-term health conditions.

Our second day is presented by our Centre for Physical Education, Sport and Human Movement focusing on 'Distanced physical activity and physical education: Pedagogy, relationships and a sense of belonging'. Sessions will discuss physical education (PE), personal training and physical activity programmes during COVID-19 lockdown, translating sport policy for programmes such as 'This Girl Can' to local implementation and the role of PE on mental health and recovery post-COVID-19.

Our final day is brought to you by our Centre for Physical Activity and Sports Performance covering 'The lessons learned and the plans for Sport's return to a new normal'. Experts in the field will discuss the impact of COVID-19 on training in professional sports such as football and tennis, and a return to sports such as rugby. Hear from our strength and conditioning professionals on the outlook of a post-COVID-19 future.

We encourage you to connect with us during and after the conference, with a view to exploring new and continuing research opportunities. We hope our research will inspire you and support your own ways to get back on track through physical activity, physical education and sport.

PROFESSOR ANGEL CHATER
Director, Institute for Sport & Physical Activity Research

DR ANDREW MITCHELL
Deputy Director, Institute for Sport and Physical Activity Research

JULIET FERN
Dean of Faculty of Education and Sport

With special thanks to the ISPAR 2020 Organising Committee:
Angel Chater, Andrew Mitchell, Julia Fruer, Iain Fletcher, Joanne Hill, Jeff Aldous, Laura Charalambous, Mike Newell and Monica Begum.

PROGRAMME

9 - 11 September 2020

Wednesday 9 September

Getting back on Track: Physical activity and behaviour change for the benefit of long-term conditions and psychological wellbeing

Presented by the ISPAR Centre for Health, Wellbeing and Behaviour Change

12:00 WELCOME
Professor Angel Chater, ISPAR Centre Lead for Health, Wellbeing and Behaviour Change

12:05 KEYNOTE : MOVING MEDICINE: PHYSICAL ACTIVITY AND CHRONIC ILLNESS
Professor Robert Thomas, Consultant Oncologist, Bedford Hospital

12:25 A PATIENT VOICE : THE UNIVERSITY OF BEDFORDSHIRE EXERCISE CLINC
Professor Angel Chater, Director of ISPAR

12:30 IMPACT OF REDUCING SEDENTARY BEHAVIOUR FOR CARDIOMETABOLIC HEALTH IN DIFFERENT POPULATIONS: CARDIAC REHABILITATION AND SOUTH ASIAN COMMUNITIES
Abbie Bell and Kamalesh Dey, PhD students

12:40 THE A-REST (ACTIVITY TO REDUCE EXCESSIVE SITTING TIME) STUDY: PRELIMINARY EFFICACY IN POLICE STAFF
Marsha Brierley, PhD student

12:50 Q&A

13:00 BREAK

13:10 PHYSICAL ACTIVITY TRIALS TO ENHANCE BEHAVIOUR, WEIGHT MANAGEMENT AND GLYCAEMIC CONTROL: OVERCOMING CHALLENGES DURING COVID-19
Emma Wells, Alumna, MRC Epidemiology Unit, University of Cambridge, School of Clinical Medicine

13.20 BREAKFAST CONSUMPTION, PHYSICAL ACTIVITY AND GLYCAEMIC CONTROL IN ADOLESCENT GIRLS
Dr Zakrzewski-Fruer, Senior Lecturer in Health, Nutrition and Exercise

13:30 WHAT ROLE DOES PHYSICAL ACTIVITY PLAY IN THE LIVES OF YOUNG PEOPLE FOLLOWING THE DEATH OF A PARENT
Jane Williams, PhD student

13.40 SUPPORTING YOUNG PEOPLE'S PSYCHOLOGICAL WELLBEING THROUGH PHYSICAL ACTIVITY: CONSIDERATIONS SINCE COVID-19
Bert Klemmer, Alumnus, CHUMS Mental Health and Emotional Wellbeing Service for Children and Young People

13:50 Q&A

13:55 CLOSE AND THANKS
Chair: Professor Angel Chater, Director of ISPAR

14:15 BOOKED SLOTS FOR DROP IN CLINIC TO DISCUSS RESEARCH IDEAS AND CONSULTANCY
You can book between 14.15-15.30 on 9 Sept 2020 here: **https://angelchater.youcanbook.me**

Thursday 10 September

Getting back on Track: Distanced physical activity and physical education: pedagogy, relationships and sense of belonging

Presented by the ISPAR Centre for Physical Education, Sport and Human Movement

16:00 WELCOME
Dr Joanne Hill, ISPAR Centre Lead for Physical Education, Sport and Human Movement

16:05 'PE' WITH JOE (BLOGGS): THE RISE AND RISKS OF CELEBRITY 'TEACHERS'
Dr Oliver Hooper, Research Associate, Loughborough University; **Dr Julie Stirrup**, Lecturer in PE and Sport Pedagogy, Loughborough University; **Dr Rachel Sandford**, Senior Lecturer in Young People and Sport, Loughborough University

16:15 'HEALTH WITH MR FORWOOD': DISTANCE LEARNING IN HEALTH AND PE FOR PRIMARY PUPILS
Ryan Forwood, Alumnus, Primary PE Coordinator

16:25 KEEPING A COMMUNITY CONNECTED THROUGHOUT THE PANDEMIC
Stuart Dorrill, Coach and Director, Caveman Conditioning

16:35 TRUST THE PROCESS: ADAPTING COACHING PRACTICES TO ACCOMMODATE COVID-19 IN GYMNASTIC
Grace Blacklock, Coach, Trust Gymnastic

16:45 MIGRATING PHYSICAL ACTIVITY PROGRAMMES ONLINE
Robert Lindsay, Sports Development Officer, Bedford Borough Council

16:55 BREAK

17:00 THE IMPORTANCE OF HOME FOR GIRLS' PHYSICAL ACTIVITY
Dr Joanne Hill, ISPAR Centre Lead for Physical Education, Sport and Human Movement

17:05 PE DURING AND BEYOND LOCKDOWN: IMPACT ON LEARNING (RECORDED PRESENTATION)
Lauren Corke, Alumna, PE Teacher, Sandy Secondary School

17:10 A RESTORATIVE APPROACH: RETHINK, RESHAPE AND RECOVER!
Dawn Mallett, Current student, Sport and PE Development Manager, Stanton & Pepper Hill Schools

17:20 AN EXAMINATION OF THE RECONTEXTUALISATION OF NATIONAL SPORT POLICY WHEN IMPLEMENTED INTO PRACTICE: A CASE STUDY OF SPORT ENGLAND'S 'THIS GIRL CAN' CAMPAIGN
Rianna Price, Alumna, Independent researcher

17:30 PE AND HEALTH LITERACY: ARE PE TEACHERS EQUIPPED TO SUPPORT MENTAL HEALTH AND RECOVERY POST-COVID-19?
Dr Michelle Flemons, Alumna, Independent researcher

17.40 THE FUTURE OF PHYSICAL EDUCATION IS IN THE MIX: ESTABLISHING THE DJ AS A METAPHOR FOR INNOVATIVE CURRICULUM DESIGN
Danny Golding, Senior Lecturer in Psychology Research Methods; **Dr Saul Keyworth**, Senior Lecturer in Physical Education

17:50 Q&A

18:00 CLOSE AND THANKS
Chair: Dr Joanne Hill, ISPAR Centre Lead for Physical Education, Sport and Human Movement

Friday 11 September

Getting back on Track: The lessons learned and the plans for Sport's return to a new normal

Presented by the ISPAR Centre for Physical Activity and Sports Performance

12:00 WELCOME
Dr Iain Fletcher, ISPAR Centre Lead for Physical Activity and Sports Performance

12:05 KEYNOTE : THE RETURN TO TENNIS : INNOVATE TO EDUCATE
Richard Sackey-Addo, Alumnus, Education and Training team for the Tennis Integrity Unit

12:25 LESSONS AND REFLECTIONS FROM THE RETURN TO SPORT IN THE AFL
Paddy Hogben, Alumnus, Rehabilitation & Conditioning Coach, Geelong Cats, Australia

12:40 IMPACT OF TRAINING THROUGH COVID-19 IN PROFESSIONAL FOOTBALL AND THE OUTLOOK OF THE NEW NORMAL
Tom Bromley, Alumnus, Lead Strength & Conditioning Coach, MK Dons Football Club

12:55 Q&A

13:05 BREAK

13.20 RETURN TO RUGBY : PROFESSIONAL PRACTICE FOR THE COMMUNITY GAME
Chris Long, PhD student, Performance Director at Kettering Rugby Club

13:30 STRENGTH & CONDITIONING FOR GOLF : COACHING THROUGH COVID-19
Jack Wells, Alumnus, Strength & Conditioning Coach, England Golf

13.40 THE CHALLENGES FACED BY COMMUNITY TO ELITE/PROFESSIONAL LEVEL RUGBY UNION FOLLOWING THE COVID-19 CRISIS AND THE SUBSEQUENT RETURN TO UNRESTRICTED CONTACT SPORT
Michael Dwyer, Head of Science & Medicine, Amptill RUFC

13:55 KEYNOTE : PANDEMIC TO PROJECT RESTART - NEW WAYS OF WORKING IN ACADEMY FOOTBALL TO OVERCOME THE CHALLENGES OF COVID-19
Kevin Paxton, Head of Academy Sport Science at Leicester City Football Club

14:10 Q&A

14:20 CLOSE AND THANKS

Chair: Dr Iain Fletcher, ISPAR Centre Lead for Physical Activity and Sports Performance

INSTITUTE FOR SPORT AND PHYSICAL ACTVITY RESEARCH (ISPAR)

DIRECTOR OF THE INSTITUTE

Professor Angel Chater

DEPUTY DIRECTOR OF THE INSTITUTE

Dr Andrew Mitchell

CENTRE FOR PHYSICAL EDUCATION, SPORT & HUMAN MOVEMENT

Lead: Dr Joanne Hill

CENTRE FOR HEALTH, WELLBEING & BEHAVIOUR CHANGE

Lead: Professor Angel Chater

CENTRE FOR PHYSICAL ACTIVITY & SPORTS PERFORMANCE

Lead: Dr Iain Fletcher

SPECIAL INTEREST GROUPS

- PEDAGOGY & YOUTH SPORT
- EDUCATION & SPORT POLICY
- SOCIO-CULTURAL STUDIES
- SPORT, PHYSICAL ACTIVITY & HEALTH PSYCHOLOGY
- BEHAVIOUR CHANGE INTERVENTION DESIGN & COMM.
- PREVENTION & MANAGEMENT OF LONG-TERM CONDITIONS
- SPORTS PERFORMANCE & BIOMECHANICS
- SEDENTARY BEHAVIOUR AND HEALTH
- PHYSICAL ACTIVITY, NUTRITION & METABOLISM

If you are interested in completing research with us (e.g., a collaborative project or research degree) in any of the areas above, please email **ISPAR@beds.ac.uk**. You can also access an overview of our research centres on our ISPAR website at **unibeds.info/ISPAR** and our staff profiles on the University website at **unibeds.info/SSPAstaff** and enquire with individual members of staff directly.

ISPAR SEMINAR SERIES 2019-20

ISPAR regularly invites experts in the field to speak as part of our annual ISPAR lecture series. The 2019-20 series included:

Understanding sitting: Towards a social psychology of workplace sedentary behaviour
Dr Ben Gardener, Kings College London

Applied Biomechanics: Sports Scientist at the Professional Golf Association (PGA) and S&C coach for Golf England
Jack Wells, University of Bedfordshire

Cognitive performance in extreme environments
Dr Joe Costello, University of Portsmouth

Beds Talk: Promoting children and young people's health and well-being through physical activity
Dr Angel Chater, Dr Paul Sammon, Dr Louise Ferrandino

Psychological perspectives on obesity: Addressing policy, practice and research priorities
Dr Angel Chater, University of Bedfordshire

How might the COVID-19 pandemic be affecting our sitting time and metabolic health?
Dr Daniel Bailey, Brunel University London

Personalised nutrition: can we move beyond weight and rate based ingestion recommendations of ergogenic aids?
Dr Michael Newell, University of Bedfordshire

We are currently in the process of organising next year's series, and welcome your input. To suggest a speaker, get in touch via **ispar@beds.ac.uk**

SPEAKER ABSTRACTS AND BIOGRAPHIES

Professor Robert Thomas

Moving medicine: Physical activity and chronic illness

Abstract: The cost of managing chronic illnesses is rising at a staggering rate. In the UK alone £1 billion/year is spend on laxatives, statins, indigestion, blood pressure and type 2 diabetes medication. After cancer treatments these conditions are even more common, further increasing the financial burden of cancer care especially as more people are surviving for much longer. This talk summarises the evidence that physical activity, nutrition and other behavioural strategies can help reduce the risks of chronic disease, premature aging and the symptoms associated with them including fatigue, arthritis, weight gain, osteoporosis, menopausal and urinary symptoms. It summarises the scientific evidence and describes the underlying biological processes from international and our own previous and ongoing research programmes involving patients with cancer, arthritis and COVID-19.

Biography: Professor Robert Thomas is a Consultant Oncologist at Bedford and Addenbrooke's Hospitals, a clinical teacher at Cambridge University and visiting Professor of Sports and Nutritional Science at the University of Bedfordshire. He is lead of a Lifestyle and Cancer Research Unit designing and conducting government backed studies evaluating the impact of exercise, diet and natural therapies. Notable studies have included the worlds largest randomised controlled trial of a polyphenol rich nutritional supplement in patients with cancer (the Pomi-T trial) and the randomised evaluation of a topical therapy to prevent chemotherapy induced nail damage (The polybalm study). He and his colleagues have designed and are currently conducting the UK's only COVID-19 nutritional intervention study - The Phyto-v RCT. It is assessing whether a blend of prebiotic polyphenol rich foods plus or minus yourgut+ probiotic could lower the severity and duration of symptoms.

Bert Klemmer

Supporting young people's psychological wellbeing through physical activity

Abstract: Physical activity has been shown to be beneficial to mental health at all ages. CHUMS is a mental health and emotional wellbeing service that uses recreational interventions, such as physical activity to support children and young people. Since COVID-19, these services needed to be adapted to best meet the needs of the population it serves. Bert will discuss these adaptions, and the experiences of those delivering and receiving this service alongside considerations for future programme development. Additionally, he will discuss supporting the READY trial research project as a stakeholder when working for Team BEDS&LUTON/CHUMS and ways that academia and practice can work together to benefit the psychological wellbeing of young people. Finally, he will give insight into his PhD studies investigating how to support the mental health of young people through physical activity and his consultancy work with athletes in Estonia, highlighting the important role of physical activity in psychological wellbeing.

Biography: Bert Klemmer is a Recreational Therapeutic Service Area Coordinator at CHUMS - Mental Health and Emotional Wellbeing Service for Children and Young People, where he manages therapeutic physical activity programmes across Bedfordshire, Cambridgeshire & Peterborough to support young people who are struggling with mental health or emotional wellbeing difficulties. He has worked as a Project Officer at Team BEDS&LUTON, Bedfordshire's Active Partnership and runs his own business in Estonia where he provides consultancy to athletes and sport organisations around mental skills in sport. He completed an MA in Leadership and Management of Sport and Physical Activity and BA in Sport Management at the University of Bedfordshire and is now a PhD candidate at Loughborough University, supported by Professor Angel Chater as an external advisor, investigating the the effectiveness of structured sport and exercise interventions in enhancing mental health of adolescents mild to moderate psychological health problems.

Emma Wells

Physical activity trials to enhance behaviour, weight management and glycaemic control: Overcoming challenges during COVID-19

Abstract: Part 1: Less than 20% of adolescents globally meet recommended levels of activity which is associated with social disadvantage and rising disease risk. Exposure to physical activity promotion during adolescence is important and therefore the school environment plays a vital role. The GoActive study assessed the effectiveness of an iteratively developed school-based 12 week programme designed to increase moderate-to-vigorous physical activity (MVPA) among adolescents. Year 9 students from 16 schools were recruited to the study and the programme was implemented in 8 of the schools. The GoActive programme was found to be no more effective in reducing the decline in MVPA observed at adolscence than standard school practice. Authorities should be realistic about expectations of school-based physical activity promotion strategies. Part 2: People with Type 2 Diabetes (T2D) can improve glycaemic control and in some cases achieve remission through weight loss and reduce their use of medication and risk of cardiovascular disease. The Glucose Lowering through Weight management (GLoW) trial will evaluate whether a tailored diabetes education and behavioural weight management programme (DEW) is more effective and cost-effective than a diabetes education (DE) programme in helping 576 people with overweight or obesity and a recent diagnosis of T2D to lower their blood glucose. The study has been paused since March due to COVID-19 and we are currently adapting the methodology to remotely recruit and follow up the consented patients.

Biography: Emma Wells is the GLoW Study Coordinator at the MRC Epidemiology Unit, University of Cambridge, School of Clinical Medicine. Emma completed both of her BSc and MSc and the University of Bedfordshire. Upon graduating in 2016; Emma joined the MRC Epidemiology unit as a Research Assistant on the GoActive Study and has since progressed to Study Coordinator of the GoActive study, Baby Milk Study and the GLoW study; all randomised control trials with a focus on health promotion interventions.

Dr Julia Zakrzewski-Fruer

Breakfast consumption, physical activity and glycaemic control in adolescent girls

Abstract: Infrequent breakfast consumption is associated with cardiometabolic disease and unhealthy physical activity and dietary behaviours. Yet, this evidence is dominated by cross-sectional studies that do not infer causative pathways. Experimental data in adults suggest breakfast consumption may reduce cardiometabolic disease risk via increased physical activity and acute, repeated improvements in glycaemic control. Critically, such responses may not apply to adolescent girls due to their distinct metabolic and behavioural profiles. Further, the typically low breakfast consumption and physical activity levels in adolescent girls make them an important target population. Thus, our recent series of randomised crossover trials provides a novel insight into the potential causative relationships between breakfast, physical activity and caridometabolic health in adolescent girls. Regarding the breakfast-physical activity relationship, daily breakfast consumption increased time spent in light physical activity and reduced sedentary time when compared with intermittent breakfast consumption in adolescent girls who habitually consumed breakfast, whereas girls who habitually skipped breakfast appeared to be less active when breakfast was consumed. In terms of glycaemic control, breakfast consumption reduced glycaemic and insulinaemic responses to a standardised lunch when compared with breakfast omission in adolescent girls who habitually consumed breakfast; although breakfast consumption reduced fat oxidation and increased carbohydrate oxidation, 'Fatmax' during an incremental exercise test performed later in the day was unaffected. Taken together, these findings provide some evidence that frequent breakfast consumption induces acute improvements in physical activity and glycaemic control in adolescent girls. Yet, such responses may depend on breakfast habits and require investigation with chronic trials.

Acknowledgements: We would like to thank the following students for their hard work on these projects: Victoria Morari (MSc by Research student), Rachael Champion (MSc by Research student), Emma Wells (BSc and MSc graduate), Eimear O'Sullivan (MSc graduate), Claire Seall (BSc graduate), Katie Owen (BSc graduate), Rahmeen Butt (BSc graduate),

Heidi Anukam (BSc graduate) and Mia Chapman (BSc graduate).

Funders: We would like to thank the Nutrition Society, the British Academy/Leverhulme Trust and the British Nutrition Foundation for supporting this research.

Biography: Dr Julia Zakrzewski-Fruer is a Senior Lecturer in Health, Nutrition and Exercise within the Institute for Sport and Physical Activity Research (ISPAR) at the University of Bedfordshire. Prior to joining the University in 2013, Julia gained a First Class BSc (Hons) in Sport and Exercise Science at Loughborough University, an MSc by Research in paediatric exercise physiology at the University of Gloucestershire and a PhD in paediatric exercise and nutrient metabolism at Loughborough University.
Julia then worked as a Research Officer at the University of Bath, where she managed the UK site for the International Study of Childhood Obesity, Lifestyle and the Environment (ISCOLE). Julia's primary research interests focus on how manipulations in physical activity and nutrition can improve cardiometabolic health and prevent obesity in children and adolescents. Further, Julia collaborates with an international team of experts on ISCOLE to examine associations between breakfast consumption, physical activity and childhood obesity in children from 12 countries across the world. Julia has published widely within this area and has received research funding awards from the British Nutrition Foundation, Nutrition Society, Society for Endocrinology, British Academy/Leverhulme Trust and the Tanita Healthy Weight Community Trust. In addition, Julia is a Registered Nutritionist (RNutr) with the Association for Nutrition and provides nutrition and exercise metabolism related consultancy as part of the Human Performance Centre at the University of Bedfordshire.

Marsha Brierley

The A-REST (Activity to Reduce Excessive Sitting Time) study: preliminary efficacy in police staff

Brierley, M. L.,[1] Smith, L. S.,[1] Chater, A. M.,[1] Bailey, D. P.,[2]
[1]University of Bedfordshire,
[2]Brunel University of London

Abstract: Workplace sitting time accounts for a large proportion of total daily sedentary time in office workers, increasing the risk of chronic disease development and all-cause mortality. Non-operational, desk-based roles account for a large proportion of police workforce and yet very few studies have examined reducing occupational sitting time in this population. The aim of the study was to assess the preliminary efficacy of a tailored behaviour change intervention in police staff.

Method: Twenty-four staff (79% female, 43±11 years) participated in an eight-week, single-arm, repeated measures trial. Participants were asked to take a three-minute break (standing or light walking) every 30 minutes at work. The intervention included team-based competition, newsletters, reminders, and a break monitoring app. Preliminary effects on sedentary behaviour and physical activity (activPAL3), cardiometabolic risk markers, psychological wellbeing and mood, work stress, and work performance were were evaluated by assessing changes before and after the intervention.

Results: Mean change in work sitting time significantly ($p \leq 0.05$) decreased (-17.65 minutes [95% CI: -34.17, -1.13]; Cohen's d = 0.46) with a concomitant increase in standing time (15.49 minutes [1.87, 29.12]; 0.47). Both number of prolonged sitting bouts (-0.96 [-1.80, -0.12]; 0.72) and time accumulated in prolonged bouts decreased (-63.95 [-98.59, -29.31]; 0.85). Positive affect improved (3.63 points [0.89, 6.37]; 0.87). Weight decreased (-0.86 kg [-1.68, -0.03]; 0.05).

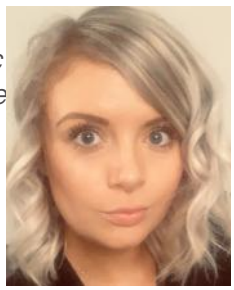
Conclusion: Reducing and breaking up workplace sitting time shows preliminary efficacy in police staff. Larger sample sizes, a control group, and longer follow-up is warranted to determine sustainability and potential health impacts.

Biography: Marsha is a final year PhD student at the University of Bedfordshire with a background in psychology and sports performance. Her interest is in sedentary behaviour change interventions to improve people's health and wellbeing. Having worked in one-on-one health settings with clients over the years, she was motivated to complete a degree where she could help more people in real life settings, such as the workplace. Her latest project was helping police office staff to reduce prolonged sitting time at work. In the near future, she looks forward to delivering an intervention to help those diagnosed with type 2 diabetes reduce their prolonged sitting with the aim of improving health outcomes.

Abbie Bell

The association of cardiometabolic risk markers with cardiac structure and function: a systematic review

Bell, A.,[1] Richards, J.,[1] Bailey, D.[2]
[1]University of Bedfordshire,
[2]Brunel University London



Abstract: Cardiometabolic risk markers, such as blood pressure (BP) and cholesterol, are associated with changes in cardiac structure and function. This can result in reduced quality of life and increased risk of mortality. The aim of this systematic review, therefore, was to methadologically collate and interpret literature exploring the association between cardiometabolic risk markers with cardiac function and structure.

Method: A systematic search of 4 databases for articles published between 1st January 2000 and 1st April 2019 yielded a total of 13,856 unique title and abstracts to screen, with 17 articles identified as eligible for inclusion. Articles were included if they reported at least one cardiometabolic risk marker and one measure of cardiac structure or function association as a correlation coefficient. The quality of research was appraised using the AXIS tool.

Results: A narrative synthesis included 17 cross–sectional studies which reported an association of at least one cardiometabolic risk marker with either E/A ratio or left ventricular mass index (LVMI). 10 cardiometabolic measures were included. Findings were conflicting; 5 studies reported a significant association between systolic BP and E/A ratio. Other measures significantly associated with E/A ratio included diastolic BP; triglycerides and fasting blood glucose. 7 studies reported a significant association for body mass index (BMI) with LVMI, but there was little to no association with other cardiometabolic measures. Study quality overall was fair upon appraisal.

Conclusion: Studies show some association between cardiometabolic risk markers with cardiac function or structure. However, results are conflicting and further investigation is needed.

Biography: Abbie's interest in Cardiac Rehabilitation began during her third year research project of her BSc with Honours in Sport and Exercise Science at the University of Kent, where she explored the difference in energy expenditure between cardiac and non-cardiac patients while carrying out a typical exercise-based cardiac rehabilitation session. From here, Abbie completed an MSc in Preventive Cardiology at Imperial College, London, as well as a BACPR Level 4 Cardiac Exercise Instructor qualification. This led to the role of Research Assistant, where her main focus was developing collaborative research between the Cardiology department at Royal Berkshire Hospital and the University of Reading. Abbie was then offered a studentship at the University of Bedfordshire to study a PhD titled 'Reducing sedentary behaviour as a tool for secondary prevention of cardiovascular disease', where she is currently based. Alongside this, Abbie works as a Cardiac Rehabilitation Exercise Specialist at Bedfordshire Hospitals NHS Foundation Trust and Harley Street Consulting Clinics.

Kamalesh Dey

Effects of breaking up sitting time on postprandial cardiometabolic disease risk markers in overweight/obese South Asian adults

Dey, K.C., [1] Zakrzewski-Fruer, J.K., [1] Smith L.,[1] Bailey, D.P.[2]
[1]University of Bedfordshire,
[2]Brunel University London

Abstract: South Asians have the highest risk of cardiometabolic diseases of any ethnicity in the UK. Breaking up sitting time with 2 to 5 min bouts of light or moderate-intensity walking every 20 to 30 minutes can improve postprandial glucose in Caucasians. However, the data on the effects of breaking up sitting with light-intensity walking on cardiometabolic disease risk markers in South Asians in lacking.

Method: In a cross-over trial, overweight/obese South Asian adults [n=19 (5 males and 14 females), mean age 50 ± 14 years, body mass index 26.4 ± 2.5 kg/m2, and body fat (%) 34.3 ± 7.4] completed two conditions over 5 hours in a randomised counterbalanced order. The two experimental conditions were: (1) prolonged sitting (SIT) and (2) breaking up sitting with 5 min bouts of light-intensity walking every 30 min (INT-SIT). Two standardised test meals (58% carbohydrate (CHO), 28% fat, and 13% protein) were provided at 0 and 3 hours. Blood pressure, heart rate, and blood samples (to analyse blood glucose and plasma triglyceride concentrations) were taken throughout each condition. In addition, resting expired air samples were used to estimate CHO oxidation, fat oxidation, and resting energy expenditure throughout the experimental conditions. Mean values were calculated for mean arterial pressure (MAP) and heart rate. Area under the curve (AUC) values were calculated for blood glucose, plasma triglycerides, fat and CHO oxidation, and resting energy expenditure using the trapezoidal method. Linear mixed models were used to compare all outcomes between the conditions.

Results: Compared with SIT [1.73 mmol.L-1.5 h-1 (1.40, 2.06)], INT-SIT [1.52 mmol L-1.5 h-1 (1.21,1.85)] attenuated postprandial blood glucose incremental area under the curve (IAUC) where a small effect size was observed (d=0.36). There was no significant difference was observed, but the difference

approached significance (p=0.086). Compared with SIT [0.17 kcal.5 h-1 (0.13, 0.22)], INT-SIT [0.22 kcal.5 h-1 (0.17, 0.27)] significantly increased postprandial resting energy expenditure IAUC (p=0.041) and a medium effect size was observed (d=0.53). There was no significant difference in postprandial MAP and mean heart rate, postprandial IAUC for triglycerides, fat and CHO oxidation between SIT and INT-SIT (p>0.05). Compared with SIT, IAUC for triglyceride concentration was lower and IAUC for CHO oxidation was higher in INT-SIT and a small effect size was observed (d= 0.28-0.47).

Conclusion: Breaking up sitting with 5 min bouts of light-intensity walking every 30 min acutely improved cardiometabolic risk markers in overweight/obese South Asians. This intervention could play a crucial part to improve cardiometabolic health in this community.

Biography: Kamalesh Dey is currently completing a PhD in the Institute for Sport and Physical Activity Research (University of Bedfordshire) on the effect of breaking up prolonged sitting on cardiometabolic risk markers in South Asians. Beforehand, Kamalesh completed a MSc in Public Health and a MBA in Health and Hospital Service Management at the University of Bedfordshire. Before moving to the UK, Kamalesh also completed BSc in Food and Nutrition from Bangladesh.

Jane Williams

What role does physical activity play in the lives of young people following the death of a parent? A qualitative investigation using the TDF and COM-B Willams, J.,[1] Howlett, N.,[2] Shorter, G.W[3] Zakrzewski-Fruer,J.K.,[1] Chater, A.M[1]

[1]University of Bedfordshire, [2]University of Hertfordshire, [3] Queens University, Belfast

Abstract: Physical activity benefits physical and mental health. However, there is limited research investigating whether it can benefit the outcomes that manifest during the grieving process, particularly in young people following the death of a parent.

Design: Semi-structured interviews were conducted with 14 individuals (female = 8; mean age = 31.2 years), who had experienced the death of a parent between 10-24 years old (mean age at death = 17.9 years; mean time since death 13.07 years). Data was inductively analysed using thematic analysis and then sub-themes were deductively mapped to the COM-B and the Theoretical Domains Framework (TDF) to support future intervention development.

Results: Six themes highlighted the role physical activity can play following the death of a parent. Physical activity was seen as; 1) Therapeutic; providing an 2) Emotional Outlet and created a strong sense of 3) Social Support. With this, it 4) Builds Confidence, and it led to 5) Finding Yourself and 6) Improved Health, both physically and psychologically. The COM-B (TDF) were reflected in these themes respectively, in relation to: Psychological Capability, (Memory, attention and decision processes; Behavioural regulation), Automatic Motivation, (Emotion; Social/ Professional role and Identity), Social Opportunity (Social influences), Reflective Motivation (Beliefs about capabilities; Goals), and Physical Capability (Skills [ability]).

Conclusion: Physical activity brings benefit to those who have experienced the death of a parent. It is a positive alternative to talking therapies, alleviating grief outcomes, building resilience and a stronger sense of self. It should be considered as part of future bereavement support.

Biography: Jane Williams is a final year PhD candidate at the University of Bedfordshire. Jane's research focuses on using sport and physical activity to support you people who have experienced the death of a parent. Jane believes that physical activity is a powerful tool to support individuals health and wellbeing. With an abundance of research on physical activity supporting mental health, it is important to research how it can support bereavement and provide an alternative to traditional therapies.

Dr Oliver Hooper

'PE' with Joe (Bloggs): The rise and risks of celebrity 'teachers'

Abstract: During the lockdown period necessitated by the coronavirus pandemic, and the resulting school closures, there has been a rise in the number of 'celebrities' delivering online 'classes' to supplement 'home-schooling'. In PE we have witnessed celebrities – most notably Joe Wicks, who has been dubbed the 'nation's PE teacher' in the UK media, taking centre stage and positioning fitness sessions as PE lessons. However, celebrities such as Wicks are not qualified PE teachers and this, understandably, has raised concerns within the PE community.

Wicks has undoubtedly offered young people fun ways to take part in daily physical activity (PA) during lockdown. Given the importance of PA to health and wellbeing, this is to be welcomed. However, it should not be mistaken for PE.

Reflecting on the rise of celebrity 'PE teachers', we recognise the potential they have to inspire young people (and their families) to be active and can learn much from their harnessing of popular media. The fact that celebrity 'offers' were (often) enthusiastically accepted by some schools gives pause for thought for the profession. The risks posed by such phenomena have served to underline the marginalised position that PE holds in the school curriculum. PE has much potential for supporting children's holistic development but, to realise this, it needs to be taught by qualified teachers – they simply cannot be replaced by any Joe Bloggs.

Biography: Dr. Oliver Hooper is a Research Associate within the School of Sport, Exercise and Health Sciences at Loughborough University, having graduated with a PhD from the same institution in 2018. Oliver's research explores young people's experiences within physical education, health and youth sport contexts with a specific focus on the experiences of marginalised youth. He is particularly interested in 'youth voice' and the use of participatory methods to facilitate young people's meaningful involvement within research. Oliver has published various articles, papers and book chapters in these areas and routinely attends international conferences to present on this work. He is a convenor for the Sport Pedagogy Network of the European Educational Research Association and sits on the Editorial Boards of Sport, Education and Society and the British Educational Research Journal.

Dr Julie Stirrup

'PE' with Joe (Bloggs): The rise and risks of celebrity 'teachers'

Biography: Dr Julie Stirrup is a lecturer in physical education and sport pedagogy in the School of Sport, Exercise and Health Sciences at Loughborough University. She is a former physical education teacher and currently teaches on the undergraduate sport science, coaching and physical education programme as well as the PE PGCE. Julie's research centres on PE and its role within the curriculum and young people's lives from the early years through to secondary education. She has a particular interest in issues of social class and health discourse, with recent work focussing on primary school children's experiences of PE delivered through outsourcing. Julie has published in peer-reviewed journals and books in the areas of PE and health.

Dr Rachel Sandford

'PE' with Joe (Bloggs): The rise and risks of celebrity 'teachers'

Biography: Dr Rachel Sandford is a senior lecturer in young people and sport in the School of Sport, Exercise and Health Sciences at Loughborough University. She also leads the undergraduate sport science, coaching and physical education programme, as well as teaching modules related to critical pedagogy and the sociology of physical education. Rachel's research centres on young people's attitudes towards, experiences of and development in/through sport and physical activity. She has a particular interest in issues around popular culture, embodied identity and positive youth development, with recent work focussed on care-experienced youth via the British Academy-funded 'Right to be Active' project. Rachel has published widely in refereed journals and books in the areas of sociology, physical education and health and has given invited presentations of her work to international audiences. Rachel is also the link convenor for the sport pedagogy network of the European Educational Research Association.

Ryan Forwood

'Health with Mr Forwood': distance learning in health and PE for primary pupils

Abstract: Ryan believes that teaching health should be extended to the wider community rather than simply the students he teaches. Ryan is presenting on an idea of how to extend learning about health in home settings, alongside the adults that students live with, through small videos which promote thought and discussion around health topics. Offering small activities can help the wider school community appreciate the meaning of health.

Biography: Ryan Forwood is a Primary PE Coordinator in Lowestoft who studied for his undergraduate (BA Sport and Physical Education) and postgraduate (MA Physical Education and Sport Pedagogy) degrees at the University of Bedfordshire. From here, Ryan has become a keen advocate for Models Based Practice, especially Sport Education. Ryan teaches PE in a school in Lowestoft and also teaches classroom-based health lessons throughout the week. Ryan enjoys engaging with other PE practitioners through his Twitter account where he can be found at @ryanforwoodpe.

Stuart Dorrill

Keeping a community connected throughout the pandemic

Abstract: This presentation will discuss enabling people to stay connected in a disconnected world - inspiring, encouraging, and educating along the way.

Biography: The founder, Stuart, is the driving force behind Caveman Conditioning® and he believes a happy body and a happy mind makes a happy human. He established the business in 2010 while at the same time completing a Bachelors degree in sports science and Masters in Sports Performance specialising in strength and conditioning, from the University of Bedfordshire. The combination of academic knowledge and hands-on coaching experience proved to be invaluable. Stuart gained both the practical and theoretical tools to work with people from all walks of life, from professional sports teams and Olympic athletes to famous rock bands and weekend warriors. He is focused on continual evolution, making sure the highest levels of service are met, while leading the way for physical group training and helping as many people as possible join in, train hard, and have fun.

Grace Blacklock

Trust the process: adapting coaching practices to accommodate covid-19 in gymnastic

Abstract: In June 2008, Trust Gymnastics was opened as a not for profit Community Gymnastics Club under the North Bedfordshire Schools Trust banner for acrobatic gymnastics, competition gymnasts and recreational classes. We are a club that offers accessible sporting opportunities to children in the local rural communities of Sharnbrook and surrounding area. Our mission is to foster a strong sense of community within the club and aspire to promote a safe and positive environment for children to reach their potential and have the motivation to lead a physically active life. Trust Gymnastics provides its gymnasts with opportunities to develop holistically through the physical, social, cognitive and emotional domains. It is an absolute joy to see our gymnasts achieve and grow in confidence. They are valued as individuals with tailored training specific to their needs; including during lockdown. Competition gymnasts have medalled at county, regional, national and international competitions and recreational classes are very popular within the local community. Our strong team spirit gives them a sense of belonging in an environment where they feel competent and valued. Our unique coaching practice allows gymnasts to aspire to achieve their goals. This presentation discusses what we have learned delivering gymnastics based physical activity during lock down and how we have overcome the challenges of returning to face to face sessions.

Biography: Grace Blacklock competed for Great Britain in Acrobatic Gymnastics from 2006-2010 including one European Championships and three World Championships. She is Head Coach and owner of Trust Gymnastics, Sharnbrook, Bedford, that has been open for over 10 years. She has also worked in mainstream primary schools delivering physical activity and sport.

Robert Lindsay

Migrating physical activity programmes online

Abstract: To offer live stream sessions to vulnerable people at home had been something we have been considering for some time prior to the COVID pandemic. The unprecedented situation brought forward the need for online delivery and in response to the lockdown the sports development team were able to quickly launch a free online live stream programme of activity on the 23rd of March to offer the community an opportunity to remain active from home. Support was provided for those who needed technology assistance and the system was designed to be as seamless as possible. There are now 18 sessions per week including a specific mental health session for 13-18 year olds.

The latest addition is a series of bespoke sessions for care homes. Feedback from the public will be presented along with the challenges, considerations, benefits and predictions for future sustainability.

Biography: Robert Lindsay has been a Sport Development Officer with Bedford Borough Council since 2014. After graduating from the University of Birmingham in 2009 with BSc Exercise Science, Robert has worked at Bedford College, Special Olympics Australia and volunteered at London 2012 Olympics and Paralympics.

Dr Joanne Hill

The importance of home for girls' physical activity

Abstract: During lockdown, opportunities for activity outside the home were restricted, meaning that imaginative solutions were required for young people to maintain vital physical activity and leisure time. Research with girls who have been considered to be 'at risk' of low physical activity has indicated that the home is in fact a space where they can engage in physical activity on their own terms (Azzarito and Hill, 2013). Home represents a social, family-oriented and shielded space where girls' bodies may be less scrutinised than in school and public spaces. This presentation introduces research, using creative methods, that will investigate the meanings girls have been making for physical activity in lockdown and beyond, that aims to capture girls' embodied and meaningful ways of doing physical activity. This informs school and community initiatives for encouraging girls' physical activity engagement in inclusive ways.

Azzarito, L. and Hill, J. (2013) 'Girls looking for a 'second home': bodies, difference and places of inclusion.' Physical Education and Sport Pedagogy 18(4), 351-375.

Biography: Dr Hill is a senior lecturer in Physical Education and Sport Sociology at the University of Bedfordshire. She leads the ISPAR Centre for PE, Sport and Human Movement and is Course Coordinator for MA Physical Education and Sport Pedagogy in the School of Sport Science and Physical Activity. Her research employs creative and strengths-based methods to address social justice in physical education, youth sport and higher education, particularly the social construction of the body, gender and ethnicity on PE and sport (dis)engagement.

Lauren Corke

PE during and beyong lockdown: impact on learning

Abstract: During lockdown, we as teachers had to think and act fast to ensure we continued the outstanding efforts and teaching we do on a regular basis. Society had changed which led to many things changing, not only teaching. However, this was not an excuse to let standards and expectations slip - of us as teachers and those of the students. We were all hit with extreme pressures to ensure the safety, wellbeing and development of our students continued. This presentation will address what was done at federation and department level to ensure the impact on the students was lessened.

Biography: Lauren Corke graduated from the University of Bedfordshire in 2017 with a First Class BA (Hons) in Sports Studies, and continued her studies with the SAF Pilgrim Partnership Teacher Training Programme, graduating in 2018 as a Secondary School PE Teacher. Since then she has worked in a range of primary and secondary schools before her current roles at Sandy Secondary School as PE Teacher and Moggerhanger Primary School as Primary PE Lead, where the experience across different age ranges is invaluable to understanding children's stages of learning.

Dawn Mallett

A Restorative Approach: Rethink, Reshape and Recover!

Abstract: Restrictions imposed as a result of COVID-19 have had substantial and wide-ranging implications for children's mental health and overall wellbeing, thus presenting the Physical Education, School Sport and Physical Activity workforce with a prime opportunity to reflect, rethink and reshape the PESSPA provision offered to their pupils. Using a restorative approach, our federation will begin the implementation of a recovery curriculum with the intent to support wellbeing and learning through the subject of

Physical Education.

Biography: Dawn graduated from Manchester Metropolitan University in 2013 with a BA(Hons) in Coaching and Sport Development and after qualifying as a teacher in 2016, has taught on various Sport qualifications in both FE and HE settings. She is currently studying MA Physical Education and Sport Pedagogy at the University of Bedfordshire and works full-time in a primary school federation.

Rianna Price

An examination of the recontextualisation of national sport policy when implemented into practice: a case study of Sport England's 'This Girl Can' campaign

Abstract: The purpose of this study was to investigate the recontextualisation of sport policy to the local level, through a case study of Sport England's 'This Girl Can' (TGC) campaign in order to examine the implementation gap currently in UK sport policy. Bernstein's pedagogical approach (1996) was used as the theoretical framework to analyse how intended outcomes are not implemented in practice. A case study research design and semi-structured interviews (n=7) with participants in the field of Sport Development gained perspectives on policy, specifically TGC, and experiences of delivery 'on the ground'. The research indicates that there is an implementation gap in policy to practice regarding TGC. Sport England claims that the campaign had an impressive influence as a result of the use of advertisements which enhanced public and media attention. At a local level, however, national organisations (such as Sport England) failed to facilitate the development of the knowledge or resources required by practitioners to effectively implement the strategy. Providers recontextualised the policy to fit their understanding of the needs in their local environment and in so doing did not follow the intentions of TGC. Essentially, the relationship between the national (policymakers) and local (implementation) needs to be rebuilt in order to contribute to the reduction of the implementation gap.

Biography: Rianna Price is a motivational speaker and independent researcher. She has travelled nationally and internationally to speak on various topics to individuals of different ages, background and professions. Rianna graduated from the University of Bedfordshire with BA (Hons) Sports Management in 2015 and MA by Research in 2019 titled 'An examination of the recontextualisation of national sport policy when implemented into practice: a case study of Sport England's 'This Girl Can'', supervised by Dr Joanne Hill and Professor Angel Chater.

Dr Michelle Flemons

PE and health literacy: Are PE teachers equipped to support mental health and recovery post- COVID-19?

Abstract: There is growing national and international concern about the mental health of children and young people. COVID- 19 has added additional pressures on society generally. Additionally, not only are children mourning following familial bereavement, they are also mourning the loss of normalcy. Any type of loss can trigger grief. Grief is typically associated with death, however, it can follow any type of loss. Some of the things that children may grieve as a result of the COVID-19 pandemic include: loss of safety, worry about loved ones, social distancing, quarantine and feelings of isolation, changes in daily habits and routines, special plans and events that have been cancelled, growing tensions in the home, sadness over how the pandemic will affect the world and fears for the future. Furthermore, children with adverse childhood experiences (ACEs) are more likely to experience mental ill health and reduced life chances in the future if measures are not put in place to support them. Physical activity has long been documented as a way children and young people can improve mental health and wellbeing. The majority of school aged children will get most of their physical activity during school as part of their physical education programme. With a growing need for teachers to be able to promote and support children and young people's mental health, this presentation provides a rationale for the investigation into how well equipped physical education teachers are to promote mental wellbeing through curriculum design and pedagogical practices in a post COVID -19 era.

Biography: Dr Flemons is an experienced senior lecturer of Physical Education and Sport Pedagogy. She completed her PhD at the University of Bedfordshire in 2018, titled 'Occupational Socialisation and the Subjective Warrant of Physical Education Teachers', supervised by Dr Toni O'Donovan, Dr Joanne Hill and Professor Angel Chater.

Danny Golding

The future of physical education is in the mix: establishing the dj as a metaphore for innovative curriculum design

Abstract: Despite a long and privileged position in curriculums across the globe, Physical Education (PE) is arguably in desperate need of reformulation. In PE Futures, Kirk (2010) argues that there are three potential directions for the subject, these are: more of the same, extinction or radical reform. In this positioning paper the authors offer an alternative to the current preference given to models based practice which has been seen to hold a dominant voice in pedagogical discourses. Models undeniably have a place in the PE futures Kirk (and others) envision. However, as Kirk (2010) himself notes, the process of change and reform is strengthened by sensitivity to 'past strands' and the recognition of historical signifiers. In this paper we seek to excavate several historical influences that have been 'obscured' in much contemporary practice; not least the oft-cited view that models are 'innovative', which masks their historical roots/crafting.

As an alternative we look to obscured practices historically embedded in PE's rich heritage of eclectic content and developed outside PE in thriving, distal communities of practice. Drawing upon theoretical knowledge exemplified by Rudolf Laban in Dance and John Dewey in Outdoor & Adventurous Activities (OAA), we advocate a thorough emersion and grounding in these specialisms as a necessary part of fostering a radically different future for PE. Using metaphors as an established advanced learning tool, we argue that PE teachers should be empowered to draw upon the richness of obscured pedagogies in crafting a bricolage that views curriculum design as a creative process. We offer the metaphor of the disc jockey (DJ) to situate the PE teacher as a connoisseur (Eisner 2003) that can facilitate experiences that are theoretically astute and rich in polyphonic voices. Through a thorough and detailed appreciation of past rhythms the DJ can mix new and contemporary sounds that resonate with future generations of learners.

Biography: As a senior lecturer at the University of Bedfordshire, Danny Golding teaches a range of areas including: sport and exercise psychology, physical education, outdoor education and sport development. He has collaborated with Dr Saul Keyworth for a number of years working on developing theory and practice around themes including obscured practice and the pedagogy of discomfort. Currently his own research interest is in the field of stress and coping in sport. He has been fortunate to work with leading endurance athletes and also research stress in extreme environments. The work has been presented at conferences organised by the British Association of Sport and Exercise Science (BASES) and the British Psychological Society (BPS). Prior to working at the University Danny was head of physical education at two secondary schools and is actively involved in team sports, athletics, adventure activities, dance and martial arts.

Dr Saul Keyworth

The future of physical education is in the mix: establishing the dj as a metaphore for innovative curriculum design

Biography: Dr Saul Keyworth is a senior lecturer in physical education at the University of Bedfordshire. His areas of interest include the use, misuse and non-use of dance in physical/education, social justice and critical pedagogies/theories, arts-based research methodologies/methods, narrative research and the effective design/delivery of PSHEE.

Richard Sackey-Addo

The Return to Tennis: Innovate to Educate

Abstract: The suspension of professional tennis globally and the exceptional circumstances created by the global lockdowns have led to a number of increased integrity challenges for tennis worldwide. Corruptors have continued to target players and others who may be financially vulnerable, in addition to the temptations for players to commit doping offences after long periods of inactivity. This presentation will give an overview of how the Tennis Integrity Unit has had to adapt to the exceptional circumstances created by the COVID-19 pandemic and provided guidance and support to equip professional players, officials, coaches, agents and staff plus briefings to the betting industry to make smart and informed decisions on corruption and doping temptations to ensure these risks are

best managed as professional tennis gradually resumes.

Biography: Richard graduated from the University of Bedfordshire with a BSc (Hons) in Sport and Exercise Science in 2014 and an MSc in Sports Performance in 2015. After graduating, Richard secured a role working in the Tennis Development Department of the International Tennis Federation (ITF), the world governing body of tennis, where he was based in Valencia, Spain for over two years. Richard currently works in the Education and Training team for the Tennis Integrity Unit (TIU), the organisation responsible for safeguarding the integrity of professional tennis worldwide and enforcing tennis's rules on betting related corruption and from 2021 also responsible for Anti-Doping in professional tennis. His role involves assisting with the delivery of a world class Education Programme that raises awareness and educates all those involved in professional tennis about their responsibilities in adhering to the Tennis Anti-Corruption Program rules.

Paddy Hogben

Lessons and reflections from the return to sport in the AFL

Abstract: Following a league shut down and an abbreviated preparation phase, Australian Football League (AFL) games have become shorter, more intense and are played at a higher frequency than in previous seasons. Due to a second wave of COVID-19 in Melbourne and subsequent state border closures, 16 of 18 AFL teams are now operating in hub settings amidst a variety of new regulations. This presentation features an overview of the context and challenges facing AFL teams as they returned to competition and continue to adapt to changes. It will outline the central tenets of the philosophy for return to competition at Geelong Cats and offer some reflections and suggestions which may be of use to other practitioners planning for return to sport in conditions of uncertainty.

Biography: Paddy is the rehabilitation and conditioning coach at Geelong Cats (Australian Football League). He is responsible for the re-conditioning of injured players and strength diagnostics at the club. Prior to joining the Cats, he worked at P3 Sport Science in Atlanta (USA) as Lead Performance Coach, working with NFL, NBA and MLB athletes as well as a large number of athletes attempting to return to professional sport following surgery. Paddy has also worked for Saracens, Bath Rugby and Bedford Blues as a Strength and Conditioning Coach. Paddy has an undergraduate degree from the University of Bath and a masters degree from the University of Bedfordshire. He is currently carrying out research examining themes around ageing in elite team sports athletes as part of a professional doctorate through the University of Birmingham.

Tom Bromley

Impact of training through COVID-19 in professional football and the outlook of the new normal

Abstract: Life in lockdown. A timeline of events from an abrupt end to the 19/20 season, overview on an unpredictable off-season and the outlook on a phased return after an unprecedented time away in professional football. Utilising online platforms such as MyFitnessPal, Strava, Benchmark54, Hudl and Zoom, to monitor load, tracking progress and feed into the development of a three phased return to performance plan. This includes outlining and minimising potential associated injury risks of long term layoffs, progressions of movement capacity with minimal equipment and reintroduction of strength training whilst navigating the strict limitations of Govt and FA guidelines.

Biography: Tom is a BSc (Hons) Sport Science & Personal Training graduate from the University of Bedfordshire and an MSc Strength and Conditioning graduate from Middlesex University. He has a keen interest in exercise physiology, performance conditioning and influences of fatigue, possessing eight years' experience across a variety of roles in an applied high performance setting. Currently he works full time as the lead strength and power coach at Milton Keynes Dons Football Club for first team and academy athletes.

Chris Long

Return to Rugby: Professional Practice for the Community Game

Abstract: Rugby Union provides unique challenges in the post-covid landscape, with high levels of prolonged, intense physical contact, frequent close

proximity to others throughout and high increased respiratory activity amongst all players. As such, match play and training put participants at risk of coming into contact with the virus via transfer from skin on skin contact and inhalation of virulent respiratory vapour. Measures to mitigate such risks are set out in the Rugby Football Union (RFU) guidance and staged return to play advice, however the professional game returned to training and competition prior to many other sports and indeed lower levels of rugby union. This work aims to inform audiences of the risk mitigation practices in professional rugby union which have led to a return to play and present a case study demonstrating how these processes may be adapted and applied within the community game, following RFU guidelines.

Method: Practice of the Performance Team and medical staff at a level 6 rugby union team was observed and documented over the course of a four week training block.

Results: Thirty-eight players attended the voluntary off-season conditioning sessions. One player was sent home due to a high recorded temperature, who subsequently tested negative for Covid-19. 100% of players reported feeling safe at training as a result of screening on arrival.

Conclusion: Cost effective versions of the methods used within professional rugby union are achievable in a community setting. Early implementation of such protocols and the behavioural adaptations required from players and staff may lead to the formalisation of practices across lower levels of rugby union, having a positive impact on player welfare across the sport.

Biography: Chris is the Performance Director at Kettering Rugby Club, having worked previously with Northampton Saints, Nottingham Rugby, England Rugby, MK Dons FC and Northampton Town FC in a variety of sports science support roles. He is also a PhD student at the University of Bedfordshire, investigating biomechanics in rugby union, and works for Northamptonshire Sport, the counties Active Partnership.

Jack Wells

Strength & Conditioning for Golf: Coaching through COVID-19

Abstract: Over recent years, an ever-increasing number of highly skilled and elite golfers are engaging in strength and conditioning interventions. Strength and conditioning forms an important approach utilised within the development pathways with England Golf. This is due to research indicating that resistance training can reduce overuse injuries and enhance key performance indicators such as clubhead velocity and drive distance. During the COVID-19 pandemic, an alternative approach had to be carefully considered and implemented in order to ensure that the golfers within the England Golf pathway continued to develop in preparation for the upcoming golf season. Face-to-face coaching was ceased due to the COVID-19 pandemic. This presented a number of issues with regards to the 'sports science support' offered to the England Golf athletes. Coaching hours were also reduced due to constraints placed on the organisation. The England Golf Strength and Conditioning team were tasked with developing methods in which players could engage with the programme during lockdown. This involved online cookery classes, early morning strength and conditioning, group-based self-reflection, technical skill development and self-isolated competitive rounds. Although COVID-19 presented a number of problems and uncertainty, there are a number of collateral benefits that have been born through this pandemic. For instance, the strength and conditioning team feel better prepared to deliver online coaching support. This benefits the players as they therefore spend less time commuting to venues. Additionally, golfers also appreciate the value of 'home based workouts', which helps to prepare them for life (if successful) as a touring professional.

Biography: Jack Wells is a Lecturer in Sport Science for the Professional Golfers' Association and a consulting Strength and Conditioning Coach with England Gold. He has recently completed his PhD investigating the application of Strength and Conditioning and Biomechanics to Golf. Jack has published a number of journal articles within the field of Golf Science, with some of his research being utilised by the European Tour in order to physically profile the best golfers in the world.

Michael Dwyer

The challenges faced by community to elite/professional level rugby union following the COVID-19 crisis and the subsequent return to unrestricted contact sport

Abstract: The last few months have seen drastic developments within the world of sport, life became one announcement after another. The effect on our daily life and people's freedom of movement to try and manage the current situation had never been seen in our generation or indeed the generation before. The effect on Sport, particularly contact team sports was monumental, the finishing of seasons, ending player contracts, limitations placed on the amount of contact we could have with our injured, pre-surgical and post-surgical rehabilitation was an area which needed to be managed. This presentation will focus on the strategies and tools which we have used to ensure players could regularly engage with the process which we put into place at Ampthill & District RUFC, how can we maintain positive progressions in physical attributes whilst managing some of the psychological impact; which for some players, has become a removal and withdrawal from their support system.

Biography: Having graduated from the then University of Luton in 2003, Michael started his first teaching position as Associate Programme Lead for the Foundation Degree in Sports Therapy at University of Greenwich/London Leisure College with the role as Lead Therapist at Ampthill & District RUFC being offered to him whilst in his final year of his course, 14 seasons later his title is now Head of Science & Medicine. With an MSc in Sports & Exercise Medicine (University of South Wales), BSc Sports therapy (University of Luton) and a BA in History & Sports Science (University of Liverpool), these prepared Michael for the challenging role of both Senior Lecturer and Head of Sci & Medicine at Championship side Ampthill. His areas of research interest include the use of Blood Flow Restriction training in the rehabilitative use and applications prior to surgical interventions in professional male rugby union players. Most recently Michael have been involved as Lead Therapist for East Midlands Senior men's squad during the County Championships 2017-2019, successfully winning the Div 2 title in 2017.

Kevin Paxton

Pandemic to Project Restart- New ways of working in Academy Football to overcome the challenges of COVID-19

Abstract: This session aims to highlight new ways of working in Academy Football to overcome the challenges imposed by Covid-19 and limiting the impact it will have in terms of preparing the next generation of elite football players. The presentation will look at a new Academy strategic plan and how Covid has impacted on our transition to a new training facility.

Biography: Kevin has worked in individual and team professional sports for over 20 years at both youth and senior level. He is a BASES High Performance Sport Accredited Practitioner, Supervisor and Reviewer with chartered scientist status, currently working as Head of Academy Sport Science at Leicester City Football Club. Additional to this he is a UKSCA Accredited Strength & Conditioning Coach and vice chair of the board of directors. Giving back to the industry as a part-time associate lecturer at the Loughborough University and the University of Derby he has passed on his knowledge of applied practise worldwide, presented at international conferences on LTAD and sport science monitoring processes and has contributed to several peer review journal publications in these areas. An award winning industry staff developer he has also contributed as a consultant to numerous organisations in Asia, Australia and the U.S.A.

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The course involves the detailed study of the physiological consequences of chronic debilitating diseases and highlights the changes that these different diseases cause during exercise testing. This unique course gives you a solid grounding in theory and application of physiological tests in clinical populations including: graded cardiopulmonary exercise testing; cardiac ultrasound; vascular ultrasound; and muscle function analyses. Throughout the course you will actively participate in practical sessions designed to increase your skills, with supervised practice sessions working alongside University sports teams and the Community Exercise Clinic.

SPORT AND PHYSICAL ACTIVITY (LEADERSHIP AND MANAGEMENT) MA

The sport and physical activity industry has an innovative and dynamic workforce and this course will support you in developing the knowledge and skills required to gain entry to the sector. Taking a practical, research based approach, this course will give you the opportunity to review and analyse examples of best practice, develop sustainable sport participation programmes and undertake research into a sport and physical activity topic area of your choice.

SPORT AND PHYSICAL ACTIVITY (EXECUTIVE LEADERSHIP) MA

Taking a reflective, analytical and research based approach, this course will inspire you to think differently about how organisations in sport and physical activity respond to the challenges set and how they can best deliver pioneering solutions. In doing so, the course support you in developing your executive leadership skills and will offer the professional and personal development required in order for you to take the next step and become an industry leader.

PHYSICAL ACTIVITY, NUTRITION & BEHAVIOUR CHANGE MSc

In addition to developing a firm understanding of the links between physical activity, nutrition, health and behaviour change, this course offers invaluable opportunities to further career prospects during placement and research project units. With relevant experience, we will also support you in registering as an Associate Nutritionist or converting to full registration as a Nutritionist/ Public Health Nutritionist.

STENGTH & CONDITIONING MSc

If you wish to work with sports performers as a strength and conditioner, or applied sports wscientist, this innovative course is for you. Designed to meet the needs of students interested in the optimisation of fitness capacities required for high level performance in sport, it will provide the theory and foundation knowledge and skills you need to pursue professional accreditation with a number of bodies including the British Association of Sport and Exercise Sciences (BASES); the United Kingdom Strength and Conditioning Association (UKSCA).

INSTITUTE FOR SPORT & PHYSICAL ACTIVITY RESEARCH

PhD, MSc BY RESEARCH AND STAGE 2 HEALTH PSYCHOLOGY OPPORTUNITIES

Evaluation of community physical activity programmes for the benefit of long-term conditions

The University of Bedfordshire hosts an exercise clinic for the local community to support health and wellbeing through the engagement of physical activity. With excellent links to the health and wellbeing services and hospitals across three local authorities, there is an opportunity to evaluate and further develop physical activity programmes, both within the university and regionally, to understand the benefit to long-term conditions (e.g. diabetes, cancer, cardiovascular disease, mental health). Using behaviour change methodologies, this research will further develop support services in this area and aim to optimise their performance to benefit physical and psychological health.

Health professional behaviour for exercise referrals

Physical activity can significantly enhance health and wellbeing, optimising health status. Yet there are a large number of people not currently meeting government recommendations. With the promotion of physical activity being given more importance in the new government obesity initiative and 'Better Health' app, there is a need to ensure that those who are working with individuals to promote physical activity are equipped with the skills in behaviour change. This includes those who may refer on to an exercise on referral programme such as general practitioners, and those who deliver the service, such as registered exercise professionals. This research will assess the current need for training and develop a programme of training and evaluation that can be replicated and rolled out nationally/internationally.

Assessing the impact of physical activity on the grieving process after experiencing a bereavement

The world is currently facing a large number of unexpected deaths, which will lead to national grief. Before the COVID-19 pandemic, there were 616,014 registered deaths during 2018 in the UK alone. There is an abundance of research which investigates the benefits of physical activity on mental health. Many grief outcomes which are experienced following bereavement cross over with common mental health concerns (e.g. anxiety, depression), which can be improved through physical activity. Yet there is limited research investigating whether physical activity can support grief outcomes in individuals who have experienced a bereavement. Physical activity interventions have huge potential but need to be co-created for optimal effectiveness. A mixed methods approach will continue research currently ongoing within our centre to develop this body of evidence further.

GET IN TOUCH

If you are interested in completing a PhD, MSc by Research or Stage 2 Health Pyschology in any of these areas or a related area, please contact:

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INSTITUTE FOR SPORT & PHYSICAL ACTIVITY RESEARCH

PhD AND MSc BY RESEARCH OPPORTUNITIES IN PHYSICAL ACTIVITY, NUTRITION AND METABOLIC HEALTH IN CHILDREN AND ADOLESCENTS

Does breakfast consumption versus breakfast omission affect physical activity, dietary intakes and cardiometabolic health outcomes in children and adolescents?

Breakfast is believed to be the 'most important meal of the day' and is associated with favourable health outcomes in children and adolescents. Yet, the available evidence on breakfast and health does not allow us to establish cause-and-effect. This project will focus on conducting experimental research to identify whether breakfast consumption can help to improve physical activity levels, dietary intakes and cardiometabolic health (e.g., glycaemic control) in children and adolescents when compared with breakfast omission. The specific nature of the project is open for discussion and development with the research student.

Breakfast composition and timing in children and adolescents: impact on energy balance and cardiometabolic health outcomes

This project will focus on conducting experimental research to identify whether there is a specific type of breakfast (e.g., macronutrient composition) and time of day that breakfast should be consumed to improve physical activity levels, dietary intakes and cardiometabolic health (e.g., glycaemic control) in children and adolescents. The specific nature of the project is open for discussion and development with the research student.

Improving glycaemic control and insulin sensitivity through physical activity and nutrition in non-overweight, overweight and obese children and adolescents

With childhood and adolescence being an important time of life to target for the prevention of type 2 diabetes, this project aims to identify how manipulations in exercise and nutrition can improve glycaemic control and insulin sensitivity in this under-researched population. The impact of overweight and obesity on the research outcomes will also be investigated. The specific nature of the project is open for discussion and development with the research student.

GET IN TOUCH

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University of Bedfordshire

HUMAN PERFORMANCE CENTRE

WHO WE ARE

We offer a range of health, fitness and wellness services aimed at optimising your overall wellbeing. Whether your goal is to lose weight or improve your athletic performance, our state of the art facilities and highly trained sport and exercise scientists can assist to achieve your fitness goals.

- Environmental training
- Health, Wellness, & Metabolic Asessment
- Strength and Conditioning
- Team Sport Assessment
- Fitness Assessment
- VO_2 Max testing
- Lactate Threshold Profiling
- Anthropometry Testing
- Biomechanical Testing
- Nutrition Assessment and support
- Behaviour change support and training

Kayamba Prospere, Boxer

"The service provided by the human performance centre has been exceptional. I was able to have the fitness testing tailored to meet my needs and the results were relayed back to me in a clear and understandable format. The staff at the Human Performance Centre are very friendly, knowledgeable and professional, making the experience very worthwhile."

Ian Hammett, Team GB Spartathlon runner

"It's been amazing - the guys have been fantastic in looking after me. It's not just been physical, they've given me plenty of advice on coping mentally and assuring me that my preparation is going the right way when I haven't perhaps felt at my best. Their time has been very much appreciated, and the facilities have been amazing, and my time here will stand me in good stead for achieving my goal."

For more information on other testing we provide, visit www.beds.ac.uk/humanperformance

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