



Durham  
University

# MSc in Physical Activity, Health and Society

Department of Sport and  
Exercise Sciences

# Who am I?



**Dr Katie Di Sebastiano**

Director of Postgraduate Taught Programmes

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# Welcome to the Department of Sport and Exercise Sciences!

A welcoming, collegiate, and vibrant community of world-leading academics, delivering a cutting-edge curriculum.

Our taught programmes are consistently ranked in the Top 10 best sport-related degrees in the country and our department has also been ranked in the Top 100 in the QS World Rankings for 2023 for sport-related subjects.

## Top 10

**Sports degrees in the UK**  
World Top 100 Sports-related degree

**GOLD** Teaching Excellence Framework

**BRONZE** Athena Swan Award

# Sport University of the Year!

**We believe that inspiring our people to do outstanding things at Durham enables Durham people to do outstanding things in the world!**

Top 3 BUCS table University since 2012.

One of Britain's largest student participation programmes in sport.

£47 million invested in sporting facilities since 2012.



THE  TIMES  
THE SUNDAY TIMES

**GOOD  
UNIVERSITY  
GUIDE  
2023**

**SPORTS  
UNIVERSITY  
OF THE YEAR**

# Our Staff

- ✓ World leaders in the field.
- ✓ Publish highly cited books, journal articles.
- ✓ Cited in the media.
- ✓ Contribute to Government Policy.
- ✓ Networked locally, nationally, globally.
- ✓ Committed to the shared values and ethos of the Department.



# Our Facilities

We work out of our lab facilities based within the £30 million purpose-built facility at Maiden Castle.

We have also just opened our new office and research space located at Green Lane.



# MSc in Physical Activity, Health and Society

*Explore the physiological, psychological, social, and political role of physical activity in our society and its impact on health.*

## Programme Aims:

- Examine social and health inequalities
- Explore how to use physical activity to improve equity
- Explore the vital role of physical activity in society, from policy and public health to the spaces and places which enhance, shape and curtail movement



# What will my day-to-day activities look like?

## Classes Types:

- Lectures
- Seminars
- Workshops
- Tutorials
- Laboratory Practicals

***Smaller class sizes!***

*You will also have an academic advisor and dissertation supervisor to support you*





# What will I study?

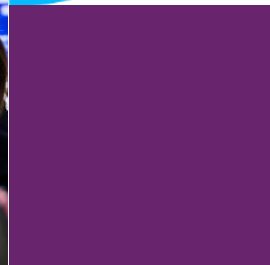
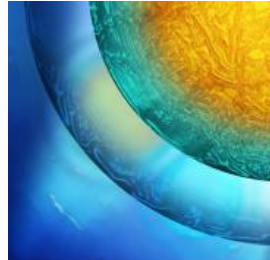
This programme was designed to allow flexibility and choice together with academic rigour and coherence.

## Core content will include

- Physical activity, health and inequalities
- Critical perspectives in exercise as medicine
- Ethics in sporting policy and practice
- Research dissertation

## Additional content will include

- Advanced quantitative and qualitative research methods and analyses
- Health as influenced by physical activity and wider social, anthropological and life sciences



# What will I study?

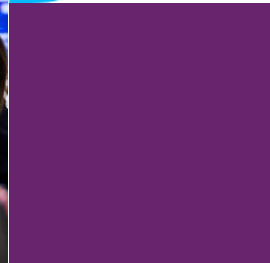
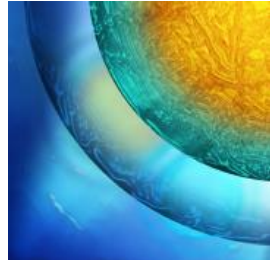
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# Exercise as Medicine: Critical Perspectives



TO CRITICALLY EXAMINE THE PRACTICAL NEED FOR PHYSICAL ACTIVITY INTERVENTION IN SPECIFIC POPULATIONS, WHILE EXPLORING THE COMPLEXITY OF ACCESS, ENGAGEMENT AND SUSTAINED BEHAVIOUR CHANGE LINKED TO EXERCISE PROGRAMMES.



TO BUILD KNOWLEDGE AND CRITICAL UNDERSTANDING OF THE ROLE OF EXERCISE AS MEDICINE, AND TO CRITICALLY ANALYSE THE ROLE OF EXERCISE IN SPECIFIC POPULATIONS.

# Exercise as Medicine: Critical Perspectives

## Cancer, Aging and Physical Activity

**Dr. Katie Di Sebastiano**

[kathleen.di-sebastiano@durham.ac.uk](mailto:kathleen.di-sebastiano@durham.ac.uk)



# The benefits of physical activity during treatment are vast and varied

[Effects of Exercise on Cancer Treatment Efficacy: A Systematic Review of Preclinical and Clinical Studies | Cancer Research | American Association for Cancer Research \(aacrjournals.org\)](#)

## EXERCISE HELPS DURING CANCER TREATMENT



\* Statements are evidence based









# Exercise Guidelines for Cancer

## Effects of Exercise on Health-Related Outcomes in Those with Cancer

### What can exercise do?

- **Prevention of 7 common cancers\***  
Dose: 2018 Physical Activity Guidelines for Americans: 150-300 min/week moderate or 75-150 min/week vigorous aerobic exercise
  - **Survival of 3 common cancers\*\***  
Dose: Exact dose of physical activity needed to reduce cancer-specific or all-cause mortality is not yet known; Overall more activity appears to lead to better risk reduction
- \*bladder, breast, colon, endometrial, esophageal, kidney and stomach cancers  
\*\*breast, colon and prostate cancers

Overall, avoid inactivity, and to improve general health, aim to achieve the current physical activity guidelines for health (150 min/week aerobic exercise and 2x/week strength training).

Outcome	Aerobic Only	Resistance Only	Combination (Aerobic + Resistance)
<b>Strong Evidence</b>	Dose	Dose	Dose
 Cancer-related fatigue	3x/week for 30 min per session of moderate intensity	2x/week of 2 sets of 12-15 reps for major muscle groups at moderate intensity	3x/week for 30 min per session of moderate aerobic exercise, plus 2x/week of resistance training 2 sets of 12-15 reps for major muscle groups at moderate intensity
 Health-related quality of life	2-3x/week for 30-60 min per session of moderate to vigorous	2x/week of 2 sets of 8-15 reps for major muscle groups at a moderate to vigorous intensity	2-3x/week for 20-30 min per session of moderate aerobic exercise plus 2x/week of resistance training 2 sets of 8-15 reps for major muscle groups at moderate to vigorous intensity
 Physical Function	3x/week for 30-60 min per session of moderate to vigorous	2-3x/week of 2 sets of 8-12 reps for major muscle groups at moderate to vigorous intensity	3x/week for 20-40 min per session of moderate to vigorous aerobic exercise, plus 2-3x/week of resistance training 2 sets of 8-12 reps for major muscle groups at moderate to vigorous intensity
 Anxiety	3x/week for 30-60 min per session of moderate to vigorous	Insufficient evidence	2-3x/week for 20-40 min of moderate to vigorous aerobic exercise plus 2x/week of resistance training of 2 sets, 8-12 reps for major muscle groups at moderate to vigorous intensity
 Depression	3x/week for 30-60 min per session of moderate to vigorous	Insufficient evidence	2-3x/week for 20-40 min of moderate to vigorous aerobic exercise plus 2x/week of resistance training of 2 sets, 8-12 reps for major muscle groups at moderate to vigorous intensity
 Lymphedema	Insufficient evidence	2-3x/week of progressive, supervised, program for major muscle groups does not exacerbate lymphedema	Insufficient evidence
<b>Moderate Evidence</b>			
 Bone health	Insufficient evidence	2-3x/week of moderate to vigorous resistance training plus high impact training (sufficient to generate ground reaction force of 3-4 time body weight) for at least 12 months	Insufficient evidence
 Sleep	3-4x/week for 30-40 min per session of moderate intensity	Insufficient evidence	Insufficient evidence

Citation: [bit.ly/cancer\\_exercise\\_guidelines](https://bit.ly/cancer_exercise_guidelines)

Moderate intensity (40%-59% heart rate reserve or VO<sub>2</sub>R) to vigorous intensity (60%-89% heart rate reserve or VO<sub>2</sub>R) is recommended.

Exercise is Medicine | AMERICAN COLLEGE OF SPORTS MEDICINE

Cancer Research UK

McMillian Cancer Support

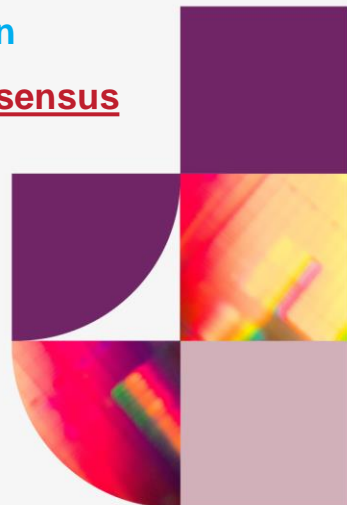
BASES

NICE PH44 – For Primary care

COSA – Australia

ACSM – American

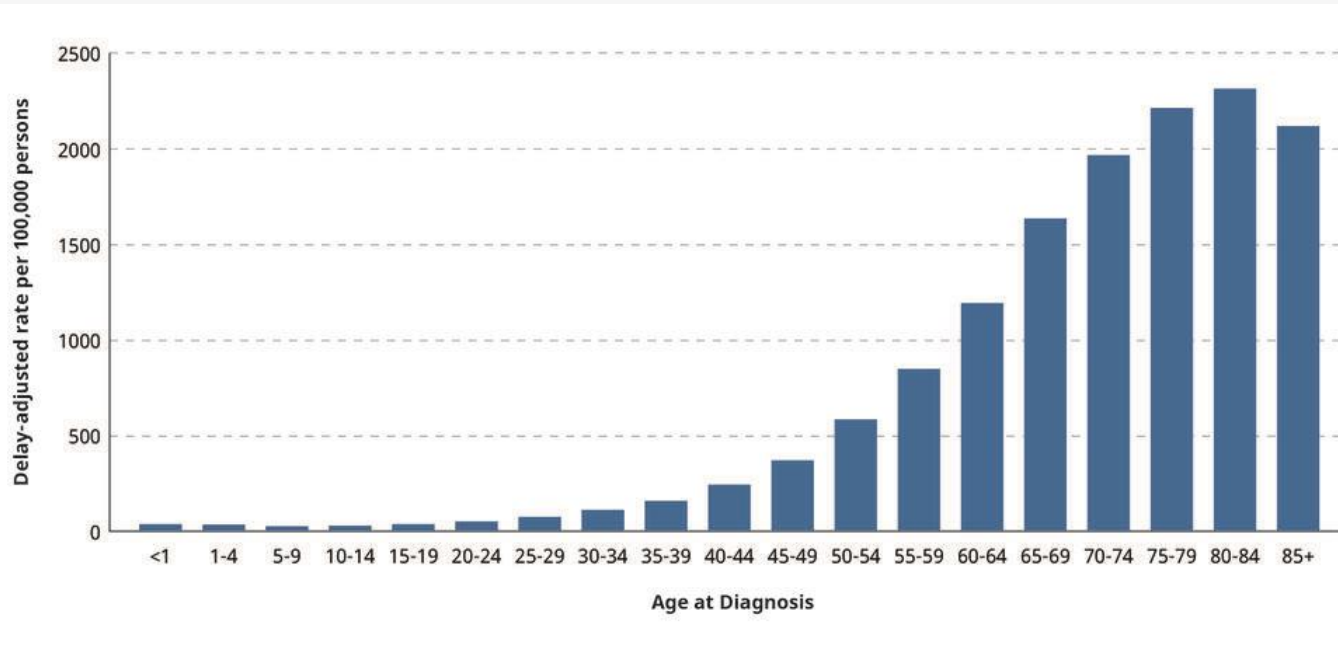
International consensus



**Who do you think  
participants in cancer-  
related research studies?**



# Age is the most significant risk factor for cancer





**Cancer RCT disproportionately  
include younger cancer patients.**

**Why?**



# What are the barriers to participation?

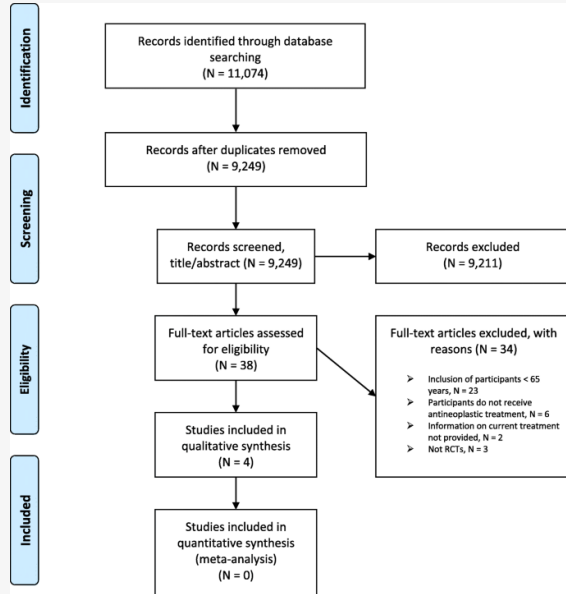
System	Provider	Patient	Caregiver
<ul style="list-style-type: none"><li>• Eligibility criteria</li><li>• Consent form language</li><li>• Trial availability</li></ul>	<ul style="list-style-type: none"><li>• Concern for toxicity</li><li>• Concern for age</li><li>• Time/burden</li><li>• Lack of personnel</li><li>• Preference against research</li><li>• Unaware of trials</li></ul>	<ul style="list-style-type: none"><li>• Knowledge</li><li>• Transportation</li><li>• Time/burden</li><li>• Efficacy and toxicity concerns</li><li>• Against experimentation</li><li>• Treatment preferences</li><li>• Finances</li><li>• Believe too old</li><li>• Emotional burden</li></ul>	<ul style="list-style-type: none"><li>• Preferences</li><li>• Burden</li></ul>



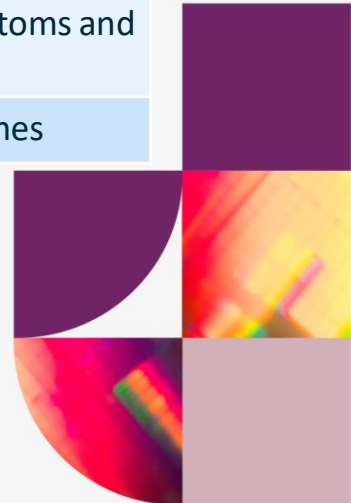
**Do you think physical activity holds the same benefits for older adults as for younger individuals with cancer?**



# There is limited evidence, but Yes! Exercise is beneficial for older adults with cancer



Beneficial Effect	No Effects
Physical Function	Health-related QoL
Muscle Strength	Aerobic Capacity
Physical Activity	Body Composition
Cognitive Function	Cancer-related Symptoms and Side Effects
	Clinical Outcomes



# What does this mean for older cancer patients?



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# What can I do with my degree?

The course is designed to prepare you for jobs in a variety of different areas, including physical activity promotion and policy-based settings.

## Key skills include

- Relationship Building and Collaborative Working
- Persuasive and Tactical Communication Skills
- Complex Critical Thinking and Problem Solving
- Targeted Knowledge Mobilisation and Application



# Example careers

- University academics
- Post-doctoral research positions (national/international)
- Senior Research Officer, Office of National Statistics
- Manager, Scottish Racing Academy
- Director of Education, Professional Golfers Association
- Further training (Medicine)



# Any questions?

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**Visit the course  
webpage [here!](#)**

