

# A Bump in the Road? The BASES Expert Statement on Pregnant and Postnatal Athletes

Produced on behalf of the British Association of Sport and Exercise Sciences by Dr Marelize De Vivo, Dr Lou Atkinson, Gráinne Donnelly, Prof Kirsty Elliot-Sale, Chloe Hillyar, Sarah Rand, Dr Claire-Marie Roberts and The Active Pregnancy Foundation.

## Introduction

There is undeniable excitement around women's sport and with more athletes rejecting the long-held belief that starting a family should be delayed until the end of their performance career, there has been increased visibility of mother athletes (Davenport *et al.*, 2022b; Jackson *et al.*, 2021). Whilst the introduction of national and international physical activity guidelines for pregnant and postnatal women has led to increased awareness, promotion, and engagement in the general population, specific support for women who regularly exceed the limits of these guidelines is lacking.

This expert statement highlights current guidelines, areas where further evidence and consensus is needed, and the multi-disciplinary approach necessary to effectively support athletes with their health, training, and performance goals during and after pregnancy.

## One size does not fit all

Current guidelines recommend that healthy adult women without contra-indication accumulate 150 minutes of moderate intensity physical activity (40%-59% heart rate reserve (HRR); see Meah *et al.*, 2022), and two days of strength training each week (World Health Organisation; WHO, 2020). This level of physical activity confers many health benefits including a decreased risk of pre-eclampsia, gestational hypertension, gestational diabetes, excessive weight gain, delivery complications and postnatal depression, and fewer newborn complications (WHO, 2020).

Whilst women who have engaged regularly in vigorous intensity activities (60%-80% HRR; see Meah *et al.*, 2022) before pregnancy can continue being active at this level, current guidelines do not account for the high levels of training that elite athletes may wish to sustain (Wowdzia *et al.*, 2021), nor do they make sport-specific recommendations for adaptation, which may include cross training. For example, activities which represent an increased risk of falling,

sustaining high impact or contact injuries, or those that limit oxygenation (e.g., high altitude training when not normally living at high altitude), may need to be stopped or adapted as pregnancy progresses (WHO, 2020).

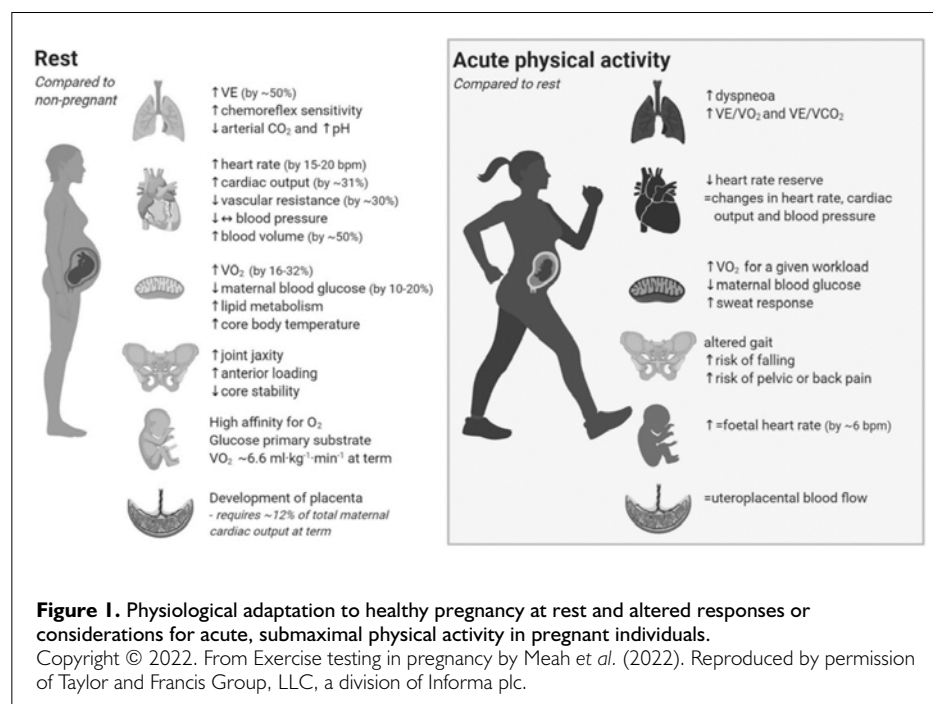
Evidence-based recommendations to ensure a safe return to sport after childbirth is also lacking, with practitioners and academics calling for greater recognition of perinatal health (Donnelly *et al.*, 2022; Kimber *et al.*, 2022). Like injury rehabilitation, a graded approach to activity and training with progressive loading has been proposed (Donnelly *et al.*, 2022a). To ensure optimal functioning and performance in the short-term whilst also attending to their wider and long-term individual needs, it is recommended that elite athletes access pelvic health physiotherapy services during and after pregnancy regardless of the presence or absence of symptoms (Donnelly *et al.*, 2022a; Jackson *et al.*, 2021).

## Great expectations

Pregnancy is a major life event characterised by significant anatomical and physiological adaptations that are necessary to support foetal development without compromising maternal health (Jackson *et al.*, 2021). These changes result in altered responses during acute bouts of physical activity that must be considered by the professionals supporting pregnant athletes (see Figure 1 and Meah *et al.*, 2022). However, a lack of high-quality research has deepened concerns about participation in high intensity and high-volume activities. Pregnant athletes who significantly exceed the recommended physical activity guidelines are therefore advised to consult with a healthcare provider specialised in managing this population group (WHO, 2020).

The ability of competitive athletes to maintain a more strenuous training routine throughout their pregnancy also leads to them resuming postnatal activities sooner, often at a detriment to their

emotional and physical health (Kimber *et al.*, 2022; Davenport *et al.*, 2022a). The timescale for returning to activity should not be synonymous with success but instead focus on a whole-systems biopsychosocial approach to ensure a safe return and extended career (Donnelly *et al.*, 2022b). Women face several barriers when returning to activity, including childcare, time management, lack of support, fear of movement, pressure to 'get back in shape', and conforming to societal expectations to prioritise the care and responsibility of others above their own needs (Roberts, 2022). For women, who must navigate between mother and athlete identities, this incongruence can lead to feelings of guilt and psychological discomfort (Davenport *et al.*, 2022a; Massey & Whitehead, 2022). A greater understanding of the barriers and facilitators to resuming activity is needed, but ultimately must be addressed through guidance and policy.



### It takes a village

With high-quality evidence and specific recommendations lacking, clearly defined support pathways have been slow to emerge. It was only recently that UK Sport (2021) published guidance for pregnant athletes on World Class Programmes and the governing bodies that support them. For the first time, a duty of care towards athletes as they transitioned into motherhood, was formally recognised. Information, resources, and collaboration between key stakeholders is now essential to educate athletes and empower them to advocate for their individual needs. Policies and pathways extending to grassroots participation levels are required to ensure positive experiences for more women thereby nurturing the talent pool.

Supporting athletes through pregnancy and the postnatal period presents practitioners, sport scientists, and healthcare providers with a myriad of challenges. Ultimately, a multi-disciplinary approach is necessary to balance health and performance outcomes; enabling women to continue their sporting careers beyond the transition into motherhood and safeguarding their sporting longevity (Donnelly *et al.*, 2022a).

An increased focus on the integration of specialised disciplines also creates a demand for suitably qualified and knowledgeable sport and exercise scientists. Interprofessional collaboration in this sense not only implies an understanding of the disciplines they are supporting, but also familiarity with reproductive science.



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### Conclusions and recommendations

Affording athletes the scope and flexibility to start a family during their career facilitates a more sustainable sporting future. To create a safe and truly inclusive environment, an understanding of the science of the reproductive years, alongside recognition of the challenges facing pregnant and postnatal athletes is needed:

- **Athletes** - The aspirations and individual needs of athletes during their childbearing years should be recognised with shared decision-making informing transitional plans;
- **Research** - Research must address the unique factors at play during the childbearing years, including fertility, breastfeeding, injury surveillance, testing and rehabilitation protocols, psychological support, etc.;
- **Guidance** - To reduce uncertainty, the risk of injury, and athlete drop-out, the need for evidence-based guidelines to inform the support and care of pregnant and postnatal athletes must be addressed;
- **Policy** - Development and refinement of policies and support pathways, enabling women to transition into motherhood and return to sport, must continue with the recognition that systemic change and long-term investment is required;
- **Professionals** - The profession of sport and exercise science must evolve to respond to the growing demand of women's sport through investment in professional development involving upskilling and the embedding of reproductive science in curricula. ■

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