Effects of Cycling Insoles (literature review)

Widely used, but claims appear mostly unfounded
Orthotic insoles are widely used in cycling - with demand ever-growing. And, while many manufactures, bikefitters and cycle shops alike recommend them for reducing cycling related knee injuries and improving cycling performance – their claims appear to be mostly unfounded.

The research is limited – however....
To date, unlike orthotic studies into gait activities, there are very few reliable studies on their use in cycling – especially to reduce injuries and improve performance. Moreover, and on the contrary, the few reliable (independent) studies and reviews that do exist appear to suggest that insoles that simply represent stand-alone arch supports have little or no effect, on reducing knee injuries or improving performance. However, there is research to suggest that when the arch supportive orthotic devices are used in combination with appropriately prescribed forefoot and/or rearfoot wedges or when forefoot varus wedges are used alone then the above claims are more likely to be endorsed. Contoured foot orthotics have been found to increase plantar surface pressure compared with flat footbeds, thus likely to be more effective at treating hot-foot.

Foot function is completely different
The role and function of the foot are completely different between walking and cycling. Thus, management strategies should reflect this. In walking the initial loading is through the rearfoot, the foot is dynamic and the big toe must flex to provide effective propulsion. Conversely, in cycling, loading is through the forefoot, the foot remains static, ideally supported in its natural anatomical position so that it can transfer forces efficiently and effectively.

References