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**Commentary on “High-Intensity Prolonged Endurance Activity Correlation to Abnormal Cardiac Strain as Measured by Speckle Tracking Echocardiography”**

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**Commentary**

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## SUMMARY

Our study adds nuance to the evolving understanding of the cardiac effects of prolonged endurance training. For the broader running community—especially those training for marathons, ultramarathons, and Ironman events—these findings encourage a reassessment of the belief that increasing endurance training always results in greater health benefits.

We compared seasoned ultramarathon/Ironman athletes with long-term marathon runners and found no significant difference in global longitudinal strain (GLS), suggesting preserved overall heart function in both groups. However, we observed significant differences in regional myocardial strain, specifically in the apical lateral (AL) and apical septal (AS) segments, in ultramarathoners. These findings raise the possibility that extreme volumes of endurance training may induce regional myocardial stress not evident in more standard marathon training. While the clinical consequences of these regional strain changes remain uncertain, they align with other research exploring structural cardiac remodeling in long-distance endurance athletes. Importantly, our study was cross-sectional, and further longitudinal research will be necessary to determine whether these observed differences reflect benign adaptation, subclinical dysfunction, or early stages of pathology.

For the endurance running community, our findings support growing evidence that the relationship between

exercise volume and cardiovascular health may not be linear, with moderate training conferring the greatest mortality benefit and extremely high volumes potentially carrying diminishing returns. However, this relationship remains an area of active debate, and our findings should be interpreted cautiously given limitations such as sample size, study design, and the absence of long-term outcome data.

High-volume athletes should remain attentive to warning signs such as early fatigue, palpitations, or a sudden decline in performance. Rather than recommending routine advanced cardiac imaging at this stage, a more balanced approach is warranted: athletes engaging in extreme volumes of endurance training may benefit from discussing individualized cardiac monitoring strategies with their physicians.

## CONCLUSION

while our data do not suggest widespread harm, they highlight that when it comes to cardiac health, dose and duration matter, and more is not always better.

## REFERENCES:

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