

## ***ESSR Journal Club***

**Covered Article:** “The Impact of Aerobic Exercise on the Muscle Stem Cell Response”

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- 1) What evidence supports the notion that satellite cells *are* necessary for muscle growth in rodents and humans? What evidence suggests that satellite cells *are not* necessary to support muscle growth in rodents and humans?
- 2) What evidence implies a role for satellite cells in skeletal muscle remodelling following aerobic exercise training that does not result in muscle growth?
- 3) In addition to determining satellite cell content in muscle, what else do we need to consider about the satellite cell pool when evaluating responses to an exercise training program?
- 4) What mechanisms may modulate satellite cell function following aerobic exercise that does not result in muscle growth?
- 5) Recent work has used the localization of capillaries within skeletal muscle to establish their link with satellite cells. How might future studies expand on this knowledge that an increase in capillary density results in improved exposure of satellite cells to nutrients and growth factors found in circulation.
- 6) Discuss some of the evidence that suggests mitochondrial biogenesis may support satellite cell function.
- 7) How might aerobic exercise slow the decline in muscle mass with advancing age?
- 8) Does the review article convince you that aerobic exercise training can improve the ability of skeletal muscle to respond to various atrophic conditions? If not, why not?