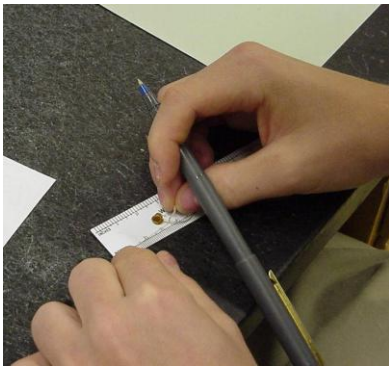


**(1)Physical (in)activity leads to neuroplastic changes  
in the rostral ventrolateral medulla (RVLM)**

**(2)** Susan L Speirs, Nicholas A Mischel, Patrick J Mueller.

**(3)**Physiology, Wayne State University, Detroit, MI

**(4)**Individuals who lead a sedentary lifestyle are at increased risk of cardiovascular disease. C1 neurons in the rostral ventrolateral medulla (RVLM) express tyrosine hydroxylase (TH) and are important in blood pressure regulation. **(5)**We have hypothesized that the RVLM undergoes neuroplastic changes that increase sympathoexcitation in sedentary (SED) versus physically active animals. **(6)**To test this hypothesis, TH immunohistochemistry was performed on 150  $\mu$ m thick sections from SED rats or rats housed with running wheels (WRs, 14 wks). The caudal pole of the facial nucleus (CP7) was used as a reference point for blinded cell counts. **(7)** TH+ cells were distributed rostral-caudally in both groups, however, SED rats had significantly greater TH+ cells near CP7 ( $92 \pm 14$  vs.  $31 \pm 8$  cells,  $p < 0.05$ ). TH+ cells were not different 600  $\mu$ m caudal to CP7 ( $64 \pm 12$  vs  $60 \pm 5$  cells). **(8)** These data suggest that TH+ neurons projecting to the spinal cord but not hypothalamus undergo neuroplasticity due to physical activity, inactivity or both. **(9)** Knowledge from these studies may lead to treatment options in patients who are unable or unwilling to exercise. **(10)** (APS Frontiers Program; F30HL105003; R01HL096787).



**Directions for the students:**

The abstract above is an actual published abstract. Let it serve as a sample for building your own abstract. Note that the highlighted numbers do not actually get placed into the final abstract, but serve as a teaching tool corresponding to the numbers below. The sample abstract took 14 revisions! Do well!!! **Word-Smith for about 1200 characters!**

1. The title may be descriptive of the project or results-oriented based upon the project's outcome. This title is results-oriented.
2. Author line. Super scripts may be used if authors are from different locations.
3. Locations department, facility, city state country
4. Introduction—two or three sentences providing a connection to relevance and background on the topic
5. hypothesis
6. methods—two or three sentences summarizing steps in the experimental design
7. results—the data and statistical significance of the data
8. conclusions—why the data is important
9. future implications of the study
10. grant number or promoting organization