# Article information:

Stretchable, dynamic covalent polymers for soft, long-lived bioresorbable electronic stimulators designed to facilitate neuromuscular regeneration | Nature Communications  
<https://www.nature.com/articles/s41467-020-19660-6>

# Article summary:

1. Peripheral nerve injuries can result in sensorimotor deficits and unsatisfactory functional outcomes, with slow rates of nerve regeneration and progressive denervation atrophy.

2. Electrical stimulation via implantable devices can improve muscle preservation and functional outcome, but current approaches have limitations such as discomfort, pain, costs, and non-compliance.

3. The authors report on a bioresorbable electrical stimulation platform for traumatic peripheral nerve injuries that features soft, elastomeric mechanics and long-lived materials, as well as a stimulation strategy that alleviates muscle atrophy resulting from denervation through the application of a bioresorbable cuff electrode interface at a location distal to the nerve injury. The critical biotechnology aspect is a specially synthesized bioresorbable dynamic covalent polyurethane (b-DCPU) that serves as a substrate and biofluid barrier for electronics with designs that exploit deformable filamentary serpentine interconnects.

# Article rating:

Appears strongly imbalanced: The article is written in a biased or one-sided way, and the information it provides is not trustworthy enough to be considered a reliable source. You should consult other sources to find reliable information on the presented issues.

# Article analysis:

该文章介绍了一种新型的可拉伸、动态共价聚合物材料，用于设计软性、长寿命的生物可吸收电刺激器，旨在促进神经肌肉再生。然而，该文章存在以下问题：

1. 偏见来源：该文章没有提及任何可能的风险或负面影响，只强调了该技术的优点和潜在应用。这可能导致读者对该技术的实际效果和安全性产生误解。

2. 片面报道：该文章只介绍了动态共价聚合物材料的优点，但没有提及其缺点或局限性。例如，这些材料可能不适用于某些类型的神经损伤或手术，并且它们可能需要更复杂的手术程序才能植入。

3. 无根据主张：该文章声称使用这种电刺激器可以改善肌肉萎缩和神经再生速度，但没有提供足够的证据来支持这些主张。此外，在实验中使用小鼠模型进行测试并不能完全反映人类体内情况。

4. 缺失考虑点：该文章没有考虑到其他治疗方法或替代方案，并且未探讨与传统治疗方法的比较。此外，该文章没有提及成本或可行性问题。

5. 偏袒：该文章只介绍了该技术的优点，并未探讨任何潜在缺点或负面影响。这可能导致读者对该技术的实际效果和安全性产生误解。

总之，虽然该文章介绍了一种新型的电刺激器技术，但它存在偏见、片面报道、无根据主张、缺失考虑点和偏袒等问题。因此，读者应该保持谨慎并寻求其他来源的信息来评估这种技术的实际效果和安全性。

# Topics for further research:

* Potential risks and negative effects
* Limitations and drawbacks of the dynamic covalent polymer material
* Insufficient evidence to support claims of improved muscle atrophy and nerve regeneration
* Consideration of alternative treatments and cost feasibility
* Biased reporting and lack of discussion on potential negative effects
* Need for further research and evaluation of the technology's effectiveness and safety.

# Report location:

<https://www.fullpicture.app/item/64291a17abd33bced47251b68d1856d7>