HYDROGEL FOR MUSCLE REGENERATION

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Berkeley Engineering

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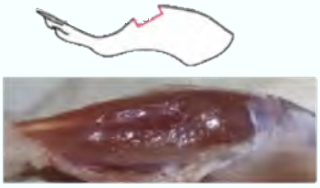
No treatment



- minimal muscle regeneration
- loss of function

HyA Hydrogel

- functional recovery
- less fibrosis

BACKGROUND

250,000 civilian cases of open fracture occur in the US per year, and 53,000 battlefield injuries have been reported between 2001 and 2020. 80% of these injuries result in volumetric muscle loss.

The Healy Lab has formulated a hyaluronic acid hydrogel capable of restoring function and cosmesis.

DOCUMENTATION

Lab Protocol

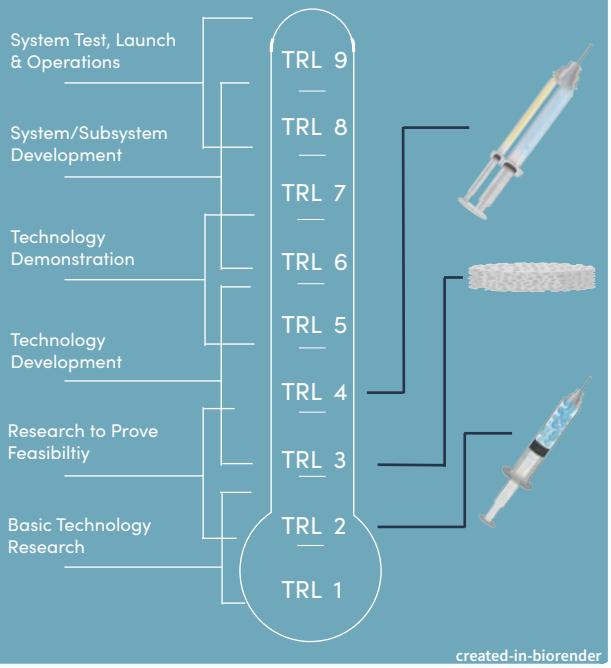
small batches

industrial production

Standard Operating Procedure

TECHNOLOGY READINESS LEVEL

The team assessed the Technology Readiness Level (TRL) of device formulations to move the product towards the clinic.



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SCALABILITY

This includes the replacement of lab scale processes for industry suitable processes.

Dialysis is a long, labor intensive process used to purify a chemically modified product. Traditionally used in labs, it is replaced by tangential filtration flow. This is a quicker and more suitable process that allows the product to be scaled up for clincal use.

STERILIZATION

We have identified the appropriate sterilization techniques and analytic methods to assess changes made to the product post-sterilization. Additionally we can use these techniques to assess the shelf life - key steps in the translation and commercialization of a medical device.

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