Researchers at the University of South Florida have discovered a novel method of treating ischemic wounds, which are notoriously difficult wounds to heal and can lead to more serious further complications.

Ischemic wounds are ulcers that are caused by a lack of blood flow to a wounded area, and can be very painful. They typically occur in the limbs of affected patients and are very difficult to heal.

With these wounds being highly resistant to healing, most patients require advanced wound care therapy, which may include hyperbaric oxygen therapy or skin substitutes. If not treated properly or left untreated for a long period of time, these wounds can lead to serious infection or even amputation of an affected limb.

Our researchers have discovered a novel method of using secreted factors, carried in exosome particles derived from human adipose derived stem cells, to stimulate the body’s natural repair mechanisms. These exosomes are applied topically to the wounded area where the therapeutic factors contained in the exosomes induce cell migration, cell proliferation, and angiogenesis (the development of new blood vessels in the wounded area); all of which aid in wound healing. Treatment of ischemic wounds with these exosomes has been shown to decrease healing times significantly.

This invention has the therapeutic potential to significantly reduce the healing time associated with ischemic wounds, reducing costs and potential further complications of these often hard to treat conditions.

**ADVANTAGES:**
- Ischemic wounds heal significantly faster than non-treated ischemic wounds
- Stimulates the body's own healing mechanisms to treat ischemic wounds
- Applied topically

**Novel Method of Reducing Healing Time of Ischemic Wounds**

*Image shows the treated wound healed significantly faster than a non-treated wound*

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