

# NANO SILVER INDUCED STEM CELL ACTIVATION

Pramod Vora, Holistic Educator & Anti-Aging Health Counselor to Doctors  
International Faculty Member Anti-Aging Medicine  
E-mail: [consult2008@space-age.com](mailto:consult2008@space-age.com)  
Web: [www.space-age.com](http://www.space-age.com)

## TOPICAL APPLICATION OF NANO SILVER STEM CELL ACTIVATION

The local antibiotic effect of silver nano particles has been well established for over four decades<sup>4,5</sup>. The topical application of nano silver stem cell activators will help to prevent post-surgical infections, dehiscence and hypertrophic scar formation. Daily application of topical nano silver has the potential to produce accelerated epithelialization and repair. In addition, topical application of nano silver will also help maintain high surface concentrations of nano silver for transdermal delivery to the area under consideration for enhanced stem cell activation on an on going basis.

Topical application of nano silver stem cell activators finds application in the treatment of burns, non-healing wounds, ulcers, impending gangrene and also helps to greatly reduce the risk of amputation of diabetic foot. Nano silver induced stem cell activation also helps to reduce post-surgical infections, improve scar healing, and reduce wound dehiscence to negligible levels which were previously unimaginable.

Exudates appear in open wounds during the first few days. In the presence of silver, the exudates are clean and free of germs. These exudates result in a fresh daily supply of stem cells. The exudates are a rich source of stem cells which contribute to the accelerated healing and regenerative processes in the body. In the presence of nano silver, these stem cells will produce an ample supply of progenitor cells.<sup>2,10</sup>

Topical application of nano silver stem cell activators can also be used as a post-treatment follow-up procedure to fat grafting for breast reconstructive surgeries and breast augmentation.

Case studies are presented in this paper, with a series of before and after photos, progressively taken over a period of time, to demonstrate the vast and incredible capabilities of topical stem cell activation therapy.

### **Case Study 1 – Non-healing Ulcer due to Corn Excision on Heel Treated With Nano Silver Induced Stem Cell Activation Therapy**

A 22 year old female nurse suffered a full thickness skin loss wound measuring 1.5 in. X 1.5 in. (3.5 cm X 3.5 cm) when treated for the removal of corn on the medial aspect of her foot. She was referred to a plastic surgeon for skin grafting because the wound did not show any signs of healing during the first seven days.

She was treated with nano silver stem cell activators which were topically applied for a period of two weeks. Being a nurse in the operating room, she was weight bearing throughout the period of this treatment. The wound epithelialized in two weeks without any adverse reaction or effects.

Epithelialization of the wound with normal skin cover occurred in seven weeks.

Considering this was a full thickness skin loss on a difficult area (weight bearing area of the sole), it is important to note that in the present case study the wound healed without skin replacement (skin grafting) and without any immobilization which is normally found necessary for healing.

Conventionally, the healing granulation tissue growth in open wounds begins at the periphery and proceeds towards the center.<sup>2</sup> However, with the topical application of nano silver stem cell activators, simultaneous and complete coverage of the entire wound (a lawn of granulation tissue) was observed much earlier.

*The growth rates of granulation tissue were approximately five times faster with nano silver induced stem cell activation than without.*<sup>2</sup>



11/18/2009



11/26/2009



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01/08/2010

**Non-healing Ulcer due to Corn Excision on Heel Treated with  
Nano Silver Induced Stem Cell Activation – Case Study 1**

Courtesy: Dr. Neeta Patel, M.S., M.Ch. (Plastic)  
Plastic & Reconstructive Surgeon, Member, ISAPS

## **Case Study 2 – Diabetic Foot / Gangrene Treated with Nano Silver Induced Stem Cell Activation Therapy**

Diabetic foot ulcer is one complication which is extremely difficult to treat and cure. It goes unrecognized as a potential threat to limb and life. Once the ulcer develops, the diabetic patient has to expend considerable time, effort and money to save the leg / foot. Left unsuccessfully treated, gangrene develops much to the dismay of the patient. The occurrence of diabetic foot ulcer is 15% of all patients with diabetes and precedes 84% of all lower leg amputations.<sup>7</sup>

This case study is of a male diabetic patient, about 50 years of age, with a history of diabetes. Advanced stage of gangrene in the instep of the foot nearly precipitated in a decision to amputate the foot at an appropriate level. However, with no consent of the patient, this decision was deferred and the ulcer was treated with topical nano silver stem cell activation therapy.

The deterioration of the wound was immediately arrested and at the end of the first two weeks of topical application, it became evident that an enhancement of wound healing with abundant and healthy granulation tissue was occurring beyond that which could be attributed to just infection control.

By the fourth week the entire wound had contracted in all three dimensions resulting in rapid coverage of the exposed area.

Around the sixth week we could see rapid ingrowth of full thickness, innervated skin.

***The topical application of stem cell activators helped healed the foot in a record period of eight weeks and averted a possible amputation.***

This is a very low cost but very effective method of treatment with a very high rate of success and is slated to outperform other techniques such as: vacuum assisted closure (VAC), vacuum compression therapy (VCT), regenerative tissue matrix, tissue growth factors – platelet derived growth factor (PDGF), epidermal growth factor (EGF), reconstructive and corrective surgeries and hyperbaric oxygen therapy (HBOT).



04/05/2010



04/05/2010



05/03/2010



05/18/2010



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06/08/2010



06/08/2010



06/15/2010

### Diabetic Foot / Gangrene Treated with Nano Silver Induced Stem Cell Activation – Case Study 2

Courtesy: Dr. Neeta Patel, M.S., M.Ch. (Plastic)  
Plastic & Reconstructive Surgeon, Member, ISAPS

### **Case Study 3 – Sternal Dehiscence After Three Unsuccessful Surgeries Treated with Nano Silver Induced Stem Cell Activation Therapy**

The patient is a male who had undergone a coronary artery bypass graft (CABG) in September of 2009.

The sternal wound appeared to have healed but later developed a dehiscence. The dehiscence of the sternum was complete and the heart was exposed. The wound was sloughy and dirty. Attempts at cleaning the wound and treating it conventionally failed.

The case was then referred to a plastic surgeon towards the end of October 2009. The wound was then treated and cleaned with vacuum assisted closure dressing. This was followed by a surgical closure by pectoralis musculocutaneous advancement flaps. Three days post operatively, the wound developed a dehiscence and infection causing further deterioration. The wound was re-cleaned and retreated with pectoralis musculocutaneous advancement flaps from the other side, which also partially necrosed and resulted in a bigger open wound than the original wound size. With the addition of vacuum assisted closure dressings, the wound started to improve in appearance and soakage decreased.

The patient was discharged and a non-surgical treatment of nano silver stem cell activation therapy was introduced to treat the wound as the three previous surgeries had proved unsuccessful to close this wound. Dressing was carried out twice a week. Topical treatment with nano silver stem cell activators was initiated and resulted in the contraction of the wound. The wound healed completely in about two and a half months.

***What was particularly impressive was that there was no secondary infection. No drug antibiotics were needed to keep the open wound clean.***





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**Sternal Dechiscence After 3 Unsuccessful Surgeries Treated with  
Nano Silver Induced Stem Cell Activation – Case Study -3**

Courtesy: Dr. Ashish Davalbhakta, MBBS, M.S., M.Ch. (Plastic), FRCS (UK)  
Aesthetic Plastic Surgeon

#### **Case Study 4 – Non-healing Ulcers in Hansens Patient Treated with Nano Silver Induced Stem Cell Activation Therapy**

A patient suffering from Hansen's disease, had an ulcer on the left heel and ulcers on the right heel and right lateral malleolus since the last six years.

She had lost all hope and was dressing herself at home for almost one year when a hospital ward boy (her nephew) brought her to the hospital for an examination by a plastic surgeon.

She was initially given vacuum assisted closure dressing and simultaneously put on nano silver stem cell activation therapy, which assisted in the proliferation of the punch grafts.

*Healing of these six year old ulcers occurred in a record period of about two and a half months.*

Left Heel  
Ulcer



01/07/2010



02/17/2010



03/17/2010

Right Heel Ulcer



01/07/2010



03/17/2010

Right Heel  
Lateral Malleolus  
Ulcer



01/07/2010



03/17/2010

### **Non-healing Ulcers (Hansens Disease) Treated with Nano Silver Induced Stem Cell Activation – Case Study 4**

Courtesy: Dr. Atul K. Shah, M.S.(ORL), M.Ch. (Plastic), LLB, MPhil (Hosp & Health Sy Mgt), PGDip in Medical Law and Ethics  
Plastic & Reconstructive Surgeon



## **Case Study 5 – Non-healing Wound (Necrotizing Fasciitis – Flesh eating bacteria) Treated with Nano Silver Induced Stem Cell Activation Therapy**

The patient, a well educated young Electrical Engineer, was pursuing a career as a Software Engineer which was required him to be at his desk for long hours.

He developed an acute onset of Necrotizing Fasciitis (flesh eating bacteria) end of February 2010, which resulted 15 days later (March 15, 2010) in a non healing wound about four inches long by three inches wide with an exposed tendon.

The patient developed Thermoplast immobilization from second day of his getting the skin lesion towards end of February 2010 which continues till date.

The patient was treated with drug antibiotics. Initially it was Cephalosporins and later switched to Ofloxacin (Ofloxacin).

The conventional route to completely excise the exposed tendon was deferred to see if the effect of integrating nano silver stem cell activation therapy would help to control and save the situation.

Within 2 weeks granulation tissue began to appear on the periphery and the wound began to heal.

Six weeks later the tendon was covered with a full layer of granulation tissue and the foot was well on its way to recovery.

What is important to note that this was done without the conventional excision of the tendon and without using a skin graft or flap.

***This speaks volumes about nano silver stem cell activation therapy and its awesome capabilities to rapidly treat large area and deep wounds measuring approximately 4.0 inches long X 3 inches wide.***

The progress another four months later in August 2010 is good. There is no relapse of the wound or infection.

Pramod Vora  
Holistic Educator &  
Anti-Aging Health Counselor to Doctors  
International Faculty Member Anti-Aging Medicine

### **SpaceAge Anti-Aging Center**

92 Corporate Park, Ste. C #705

Irvine, CA 92606

USA

Tel: 949 – 861 – 8164

Fax: 949 – 861 – 8165

E-mail: [consult2008@space-age.com](mailto:consult2008@space-age.com)

Internet: [www.space-age.com](http://www.space-age.com)



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08/23/2010



08/23/2010

## **Necrotizing Fasciitis / Flesh Eating Bacteria Treated With Nano Silver Induced Stem Cell Activation – Case Study 5**

Courtesy: Dr. Atul K. Shah, M.S. (ORL), M.Ch. (Plastic), LLB, MPhil (Hosp & Health Sy Mgt), PGDip in Medical Law and Ethics  
Plastic & Reconstructive Surgeon

**KEYWORDS:** stem cells, necrotizing fasciitis, flesh eating bacterial, diabetic foot, gangrene, hansens disease, non healing wounds, non healing ulcers, bone marrow, brain injuries, spinal injuries, bone marrow stem cell transplant, regenerative medicine, stem cell harvesting, dedifferentiation of stem cells, stem cell activation, progenitor cells, fat transplant, fat aspirate and transplant, fat grafting, breast reconstructive surgery, breast augmentation, facial reconstructive surgery, spinal injuries, brain injuries, melasma, derma rolling, stem cell gel, anti-aging medicine.

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