

2<sup>nd</sup> Global Summit on  
**Dermatology and Cosmetology**  
&

3<sup>rd</sup> International Conference on

**Wound Care, Tissue Repair and Regenerative Medicine**

September 09-10, 2019 | Edinburgh, Scotland



## ***Eliaz P Babaev***

*Arobella Medical LLC, USA*

### **Future of ultrasound tissue repair: Technologies, devices, science and clinical outcomes**

Nowadays, ultrasound tissue repair, wound and skin treatments have been gaining the interest of hospitals, clinics, wound care centers, and doctors' offices worldwide. The purpose of this presentation is to introduce upcoming advances in ultrasonic wound therapy, as well as to share, review, and evaluate the expected efficacy of ultrasound therapies in treating all types of acute and chronic wounds. This includes battlefield wound treatment and the topical oxygenation of wounds and body parts with ultrasound. For wound treatment purposes, both low, medium and high frequency ultrasound devices will be used in the near future.

For example, on top of patented, FDA approved AR-1000 series Quoustic wound therapy systems, Arobella Medical has designed:

1. (Patented and FDA approved) The Quoustic Panacea<sup>®</sup> AS-1000 is the next wound care product based on the use of ultrasonic energy to mix oxygen and saline in real-time. This allows for ultrasound delivery to the wound bed and topical oxygenation of various parts of the body. Slides and videos will be demonstrated during presentation.
2. Portable Wound Therapy System AF 1000 series to provide a portable ultrasound device for the treatment of wounds. This system is suitable for military use in the battlefield for immediate treatment of wounded soldiers. Additionally, the device's small size, portability and low weight enable its use in field surgery, where equipment is often limited. The device cauterizes the wound, stops bleeding, greatly reduces pain, and prevents infection. The Portable Wound therapy system has several therapeutic effects and can remove bullets or shrapnel from a wound, making it useful in battlefields,

terrorist attacks, and other disaster areas, such as crashes, etc. This device can be used by a variety of emergency personnel whether in an ambulance or an antiterrorism operation. Slides and videos will be demonstrated during presentation.

3. BA-1000 Skin Care Device and Method: The BA-1000 is an ultrasound assisted, cryogenic ablation device that enables tissue to be frozen and ablated at zero degrees Celsius. Generally, tissue ablation is performed at negative fifty degrees Celsius. This device is going to be used for warts, skin disorders (scars), Human papillomavirus and later for tumor removal with reduced discoloration, less scarring, minimal regrowth, faster healing and less pain in comparison with existing technologies such as laser, cryo, etc. Ablating tissue at a warmer temperature, the exact freezing point of water, limits damage to surrounding tissue and provides a safer procedure.

4. Osteomyelitis Treatment: Osteomyelitis is an infection of bone marrow. Standard treatment involves surgically opening the bone and scraping away infected marrow. Arobella Medical has developed a technology that enables a significantly less invasive treatment of the disease. This device is protected by issued US patents.

5. Arobella Medical has developed ultrasound technology for use in combination with varying degrees of pressure and/or suction (Negative Pressure Wound Therapy + ultrasound, and Positive Pressure Wound Therapy + ultrasound) as an all-in-one device for accelerating tissue healing in patients. The use of ultrasound by medical personnel for wound treatment provides benefits of improved efficiency, faster healing, selective debridement, and less pain during and after the

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procedure.

6. Different companies including Arobella Medical are working on high frequency Ultrasound Devices for wound therapy.

7. Ultrasonic Infection Control: a patented hand washing or sterilization device for use before surgery in operating rooms. Other applications include kitchens, stores, toilets, and public areas.

During the presentation many other expected future ultrasound technologies and devices will be discussed.

### Speaker Biography

Eliaz P Babaev (sometimes spelled Eilaz) is a co-founder, President and CEO of Arobella Medical LLC, USA. A recognized leader in his field, all Arobella technology and innovation is grounded in his fifty years working in non-imaging advanced ultrasound technology. He has been a consistent and prodigious inventor, with over 50 issued and over 20 pending US Patents in areas such as advanced ultrasound technology, biomedical materials and orthopedics. Before co-founding Arobella, he has held numerous positions in business and academia. He was the co-founder, CEO and later chief technical officer of Celleration, Inc. Prior to that, he worked as an ultrasound system design engineer and research scientist for DiaSorin, Inc., SpectRx and AeroPag-USA, Inc. Before immigrating to the United States in 1994, he was a professor and director of the Biomedical Engineering Center at Azerbaijan Technical University. Before that he was a PhD student and assistant professor in the Biomedical Engineering Department of Bauman Moscow State Technical University. He has also been a research fellow in biomechanics and bioengineering at the Warsaw University of Technology and Bulgarian Academy of Sciences and also a visiting professor at several universities in the People's Republic of China.

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