

# Senior Medical Acoustic Engineer



## THE COMPANY

Orthoson span out from the University of Oxford in mid 2019, to develop a novel surgical spine procedure using injected, then ultrasound cavitated particles to perform minimally invasive surgery down a needle. The company's method for intervertebral disc repair will meet a major unmet need by creating a minimally-invasive alternative to highly-invasive spinal fusion and disc replacement procedures.

The product is a complex class III medical device including a high intensity therapeutic ultrasound device and injectable, in-situ curing implantable hydrogel for use in the operating theatre for treatment of the spine for low back pain.

## THE ROLE

The position of Senior Medical Acoustic Engineer is responsible for contributing to the ultrasound platform design and development as well as validation and verification activities for Orthoson Limited. The Senior Medical Acoustic Engineer will be a member of the technical team and will report directly to the Engineering Manager and, additionally to the Technical Lead on the ultrasound platform performance.

Listed below are the major responsibilities of the role and a brief description of some of the key tasks to be performed. This list is not exhaustive, and the person will be expected to be flexible working in a hands-on, small-team environment to develop the system.

## MAIN RESPONSIBILITIES & KEY TASKS

Under direction from the Technical Lead, the Medical Acoustic Engineer will be responsible for:

- ⇒ **OrthoSon system prototyping, validation, testing, proof of concept and component performance.** The timeline for the company is to develop a prototype approved by MHRA, ready for the first in human in late 2023.
  - ◆ Work with the Technical Team, contribute to the system and safety testing and validation of the OrthoSon system platform for both acoustic and electronic systems. Work with the Technical Team, perform experiments for, process and analyse the data from, and document and report on the results of pre-clinical drug delivery testing internally.
  - ◆ Program and optimize of the ultrasound controller unit.
  - ◆ Maintain regulatory documentation for the design history file and technical file.
- ⇒ **Ultrasound platform hardware and software development**
  - ◆ Contribute to the Technical Team's effort to deliver an approved ultrasound hardware device platform for clinical trial and subsequent CE marking.
  - ◆ Working within the Technical Team and with external consultants, contribute to the ultrasound system software development process.
  - ◆ Actively participate in team resource and project planning discussions.
  - ◆ Help to formulate test cases and test plans to support prototype validation.
  - ◆ Propose and conduct experiments to evaluate and validate system performance and safety.
- ⇒ **Additional duties**
  - ◆ The role will involve hands on testing in an ultrasound lab using electronic equipment to support rapid product development and testing.

This list is not exhaustive and the successful candidate will be expected to be flexible in working in a hands-on, small-team environment.



## SKILLS & EXPERIENCE

- ⇒ A proven ability to develop, test, and validate ultrasound medical devices
  - ◆ **Experience in medical ultrasound (required)**
  - ◆ **Experience with ultrasonic measurements and calibration (required)**
  - ◆ Experience in in-vivo testing or pre-clinical device validation (desirable)
  - ◆ Experience in electrical engineering (desirable)
- ⇒ Strong software skills
  - ◆ **Matlab (required)**
  - ◆ Experience programming, validating, and documenting in a medical device company under ISO 13485 (desirable).
- ⇒ A proven ability to work in a multidisciplinary environment
  - ◆ **The candidate should be able to communicate concepts or ideas in a simple way (required)**
  - ◆ The candidate should be able to work in a multidisciplinary laboratory environment (desirable).
- ⇒ Furthermore, the candidate should have the following:
  - ◆ Experience in a medical device regulatory environment, especially familiarity with the regulations governing the development and validation of medical devices especially ISO13485 (desirable)
  - ◆ Ability to operate in a small, rapidly moving company environment
  - ◆ Be a 'self-starter' in a rapidly changing and dynamic environment.
  - ◆ Work positively and effectively as a strong team player in a multi-disciplinary team.
  - ◆ Show strong communication and organizational skills and have the ability to manage a wide range of projects simultaneously.
  - ◆ Can-do attitude, with the demonstrable ability to find compliant solutions to business problems where possible.
  - ◆ Communicate efficiently and effectively both verbally and in written form with cross-functional stakeholders such as technical, regulatory, clinical and commercial, etc.
  - ◆ Interface with a broad range of functions within an organization.
  - ◆ Develop and foster positive long-term relationships with suppliers and other key stakeholders by building and maintaining rapport.
  - ◆ Take a flexible approach on a day-to-day basis and perform tasks outside of one's job description.
  - ◆ Exhibit a high degree of professionalism and integrity both in internal and external stakeholders.

## QUALIFICATIONS

MSc degree in acoustics with demonstratable experience in therapeutic medical ultrasound, or PhD in therapeutic medical ultrasound

## WHAT WE OFFER IN RETURN

- ⇒ A competitive salary, commensurate with qualifications and experience.
- ⇒ The opportunity to work in a dynamic and rapidly growing team.

To apply please send your CV, together with a covering letter noting salary expectation to: [delphine.elbes@orthoson.com](mailto:delphine.elbes@orthoson.com). You will be contacted if we would like to consider you for this role. All applications are considered on their own merit.

For more information on OrthoSon Ltd please see our [web site](#).

## NO AGENCIES PLEASE

Applicants should be aware that this role will involve surgical device engineering and biological tissue experiments.