



KBR GmbH was established in October 2000 to provide human spaceflight medical support services to the ESA Space Medicine Office (SMO) at the European Astronaut Center in Cologne, Germany. KBR GmbH specializes in biomedical engineering, space medicine, flight nurse, psychology, nutrition, radiation, medical informatics and technology, fitness and rehabilitation, physiotherapy, medical education maintenance, project/strategy/risk management, medical projects, and consulting support services to aerospace, government and medical research customers.

## **KBR GmbH Physiotherapist Consultant Vacancy**

### **Purpose of physiotherapy consultant services**

The primary role of KBR GmbH Physiotherapist is to provide astronaut physiotherapy and rehabilitation support services to the ESA Space Medicine Office (SMO) at the European Astronaut Center (EAC) in Cologne, Germany on an as-needed basis. These consulting services include the regular treatment of the ESA Astronauts, the preparation and implementation of pre- and post-flight rehabilitation programs, and overall physiotherapy services to astronauts to optimize their physical capabilities in-flight and to maximize their recovery post-flight. Prolonged exposure to microgravity effects humans in a variety of ways, many of which can be deleterious to health. Normal ESA Astronaut duties require regular training to maintain fitness, which may also occasionally invoke injuries. The above situations can benefit from specialized, focused physiotherapy and rehabilitation services from a trained professional experienced in dealing with these unique situations. The importance of sustaining the health of ESA Astronauts is understood as protection and maintenance of valuable resources.

The service is implemented in close coordination with the SMO Flight Surgeon and Exercise Team as well as the ESA astronauts themselves to identify and improve their body movement and function, to promote their health and well-being, and assist the rehabilitation process post mission by developing and restoring body systems, in particular the neuromuscular, musculoskeletal and cardiovascular systems. The physiotherapist consultant devises and reviews treatment programs, comprising manual therapy, movement, therapeutic exercise and the application of technological equipment, e.g. ultrasound, in addition to providing advice on how to avoid injury.

### **Consultant Duties**

- Provide general physiotherapy and rehabilitation support to ESA Astronauts at a level not to exceed 400 hours per calendar year.
- Coordinate and provide post-flight rehabilitation after long duration space missions.
- Coordinate and provide rehabilitation after injuries (mission independent).
- Interact with international partner fitness, countermeasure and rehabilitation teams.
- Provide dedicated and secure services for on-going ESA space mission operations.
- Conduct regular physiotherapy and rehabilitation programs for ESA Astronauts in response to a medical event or following a space mission.
- Maintain physiotherapy and rehabilitation facilities/programs at EAC.
- Investigate new physiotherapy and rehabilitation methods and devices.
- Devise and review treatment programs, including manual therapy, movement, therapeutic exercise and the application of technological equipment, e.g. ultrasound.
- Provide advice to minimize injury risk to ESA Astronauts.
- Domestic and international travel (possibly for extended periods up to 3 weeks) may be required to support physiotherapy and rehabilitation activities for ESA Astronauts.
- Appropriate knowledge of astronaut-specific rehabilitation principles and their application.
- Conducting daily physiotherapy treatments for the post long duration ESA Astronaut in coordination with the SMO Exercise Team and Flight Surgeons.
- Documentation of daily physiotherapy sessions and outcomes.
- Support to the SMO for daily session planning, preparation and documentation.



### **General Competence Requirements**

- Fluent in English communication skills (writing and speaking), including presentations to large groups.
- Knowledge of German and/or another ESA member state language is an asset.
- Physiotherapy Science Diploma allowing practice in the home country and in Germany to provide services at the ESA EAC.
- A minimum of 15 years' experience in physiotherapy service provision.
- High level of flexibility and positive attitude towards teamwork.
- Ability to excel in a multi-cultural environment.
- Ability to maintain high level of organization and efficient output
- In-depth knowledge in human space flight, especially space operations is an asset but not required.
- Ability to perform efficiently in a multi-disciplinary environment fitness, rehabilitation and physiotherapy projects in the fields on medical operations, engineering and science.
- Ability to travel independently, both domestically and internationally.
- Ability to support mission operations during off-nominal hours (e.g., holidays, weekends, overnight)
- Experience in human fitness and rehabilitation service provision for astronauts is an asset but not required.

**KBR GmbH is looking forward to receiving your complete CV and motivation letter in English at [jobs@wylelabs.de](mailto:jobs@wylelabs.de).**