The DriveBay device was validated because motion parameters discriminate between expert and novices and correlates to a previously published modified GRS.[8]

4. Limitations to Motion-Tracking Technology:

Three dexterity scores can be measured: total distance travelled by each hand, number of movements, and total time. The number of hand movements is determined based on a calibration process of translational and rotational velocity thresholds. Therefore, the number of movements registered is highly dependent upon the thresholds the researchers have pre-defined. Clearly, evidence supports that tracking motion devices are valid assessment tools for procedural skills. Nevertheless, given those technical calibration processes, carefully interpretation should be taken in consideration while extrapolating this type of data.[1]

5. Potential applications of motion tracking.

Today motion analysis could be used for providing objective feedback in training, debriefing after procedures, and evaluating clinical competence.[9]

Nowadays these types of sensors are not used regularly in the operating room, as a guidance to perform peripheral nerve blocks.

But is there the possibility of motion analysis application for performance assessment of clinical procedures on actual patients?

Is there space for this technology (motion sensors and artificial intelligence) to find subtle patterns, biomechanical traces, and kinetic characteristics of expert performance, to guide the performance of peripheral nerve blocks?

Previous investigations have used the expert performance approach, described by Ericsson, to evaluate patterns as indicators of performance, as characteristics of an expert execution in contrast with de performance of an inexperienced operator.[10]

In the surgical field there is a lot of information generated around the use of artificial intelligence to evaluate performance of gesture in surgical procedures: a systematic review published in 2022 collects at least 66 articles on the topic, identifying the most used methodologies, current limitations, and future challenges.[11]

Another innovative idea is needle tip tracking. Kåsine reported that needle tip tracking did not reduce procedural time for out-of-plane ultrasound-guided lumbar plexus block but did reduce the number of hand movements and path lengths.[12]

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#37217 GENDER INFLUENCES ON TEAM WORK PERFORMANCE

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Gender influences on teamwork performance in the fields of anaesthesia and pain medicine, but also in scientific societies can be complex and multifaceted. While it is important to recognize that individual variations exist within genders, research has shown that gender can play a role in team dynamics and performance in these fields. A variety of factors that need to be considered have been identified across literature.

Stereotypes and Bias Gender stereotypes and biases can affect team dynamics and performance. Stereotypes about gender roles and abilities may influence how team members perceive and evaluate each other's contributions. For example, unconscious biases may lead to women being perceived as less competent or authoritative, which can impact their ability to effectively contribute to team decisions and leadership roles.

Communication Styles Men and women may have different communication styles, which can impact teamwork. Research suggests that women tend to use more collaborative and inclusive communication styles, while men may adopt more assertive and direct approaches. These differences can affect how individuals interact, contribute ideas, and make decisions within a team setting.

Leadership Opportunities Gender disparities in leadership positions can affect teamwork dynamics. Scientific societies, anaesthesia departments and academic communities may have a higher proportion of male leaders, leading to potential imbalances in decision-making power and the allocation of resources. This can influence team dynamics and hinder equal participation and collaboration among team members.

Implicit Biases and Perception of Expertise: Implicit biases can influence the perception of expertise and competence in team members. These biases may lead to women's contributions being undervalued or overlooked, even when they possess the necessary skills and knowledge. This can hinder team

performance and create an unequal distribution of tasks and responsibilities.

Work-life Balance and Career Advancement Gender-related challenges, such as managing work-life balance, can impact team performance. Women in scientific societies and anaesthesia communities may face additional pressures related to family responsibilities and societal expectations, which can affect their availability, participation, and career advancement opportunities. These challenges can impact teamwork dynamics and overall performance.

Addressing gender influences on teamwork performance requires promoting gender equity, fostering inclusive team cultures, and challenging biases and stereotypes. Encouraging equal representation, providing leadership and mentorship opportunities, and promoting diversity and inclusivity initiatives can help mitigate these influences and create more effective and equitable teams. Additionally, awareness training and interventions aimed at reducing biases can support improved communication and collaboration among team members. In this context, a multi-faceted approach is required, with proposed strategies having the possibility to be implemented, as they are analyzed below.

Promoting Diversity and Inclusivity Actively work towards creating diverse and inclusive teams by promoting equal opportunities for individuals of all genders. This can be achieved through targeted recruitment and hiring practices, ensuring diverse representation in leadership positions, and creating a supportive and inclusive work environment.

Providing Training and Education Offer training programs and workshops that address unconscious biases, gender stereotypes, and communication styles. Provide education on the importance of inclusive teamwork and the value of diverse perspectives. This can help team members develop awareness and skills to mitigate biases and foster effective collaboration.

Encouraging Mentorship and Sponsorship Establish mentorship and sponsorship programs that specifically support women in anaesthesia and scientific societies. Mentors can provide guidance, support, and advocacy to help women navigate career challenges and advancement opportunities. Sponsors can actively promote the visibility and recognition of talented individuals, helping to minimize gender biases in decision-making processes.

Implementing Flexible Work Policies Support work-life balance by implementing flexible work policies that accommodate diverse needs. This includes providing options for parental leave, flexible working hours, and remote work arrangements. By reducing the impact of gender-related challenges on individuals' professional lives, team members can better contribute to and participate in teamwork.

Fostering Inclusive Communication Encourage open and inclusive communication within teams. Promote equal participation and active listening, ensuring that everyone's perspectives are valued and considered. Create a culture where individuals feel comfortable expressing their ideas, concerns, and feedback without fear of bias or judgment.

Establishing clear evaluation criteria Develop clear and objective performance evaluation criteria that focus on skills, achievements, and contributions rather than gender. Train evaluators to be aware of potential biases and provide them with tools to make fair and unbiased assessments.

Supporting Work-Life Integration Create a supportive environment that acknowledges and supports the integration of work and personal life responsibilities. Offer resources such as on-site childcare, family-friendly policies, and support networks to help individuals manage their professional and personal commitments effectively.

Conducting Ongoing Research and Analysis Continuously monitor and analyze team performance, gender disparities, and barriers to inclusion. Collect data on team dynamics, leadership positions, and career advancement to identify areas for improvement and implement evidence-based strategies.

It is essential to approach these strategies holistically and continuously evaluate their effectiveness. Creating a gender-inclusive environment requires ongoing commitment, engagement, and a willingness to challenge and transform existing norms and biases.

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Panel discussion

#37203 PREVENTING ACUTE PAIN DURING CS UNDER REGIONAL ANAESTHESIA

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Neuraxial techniques have long been established as the anesthetic techniques of choice for cesarean section because with their application, risks inherent in the use of general anesthesia, such as failed intubation, regurgitation, aspiration of gastric contents, and untoward awareness are avoided. However, on some occasions neuraxial techniques may fail, leading to maternal discomfort and pain. This could lead to the development of adverse psychological sequelae and even to medicolegal claims against obstetric anaesthetists.

Risk factors for failure of neuraxial anesthesia for cesarean section

There is no consensus as to what constitutes failure of neuraxial anesthesia. 'Failure' might either be complete (accompanied by total lack of sensorimotor block) or partial (manifested as unilateral block or inadequate block height). The need for intraoperative supplementation by additional analgesics or the need for conversion to general anesthesia is also a manifestation of failure of neuraxial anesthesia. Therefore, failure might be evident preoperatively (as inability to achieve a satisfactory block) or intraoperatively, as pain experienced intraoperatively by the parturient and as a request on her behalf for analgesic supplementation. Risk factors associated with preoperative failure include high BMI, operative urgency (associated with acute fetal distress or maternal medical condition) and being a primiparous parturient. Risk factors for intraoperative failure include allowing the cesarean section to start in spite of an inadequate block as well as increased