

Quality Report 2024























A message from the CEO

2024 was an exciting year for us at Ascot Rehab. Our dedication and hard work have enabled us to overcome major challenges and build one of the most innovative rehabilitation services in UK. The purpose of this Quality Report is to provide a tool for assessing the quality of the Rehabilitation services we provide and gives a summary of the main quality indicators, which are: relevance, accuracy, accessibility and clarity, timelines and punctuality, comparability, and coherence. Our Quality Report describes our work in four important areas which are key to service quality:

- 1. The clinical effectiveness and outcome measures of the treatments and interventions we offer
- 2. The experience of those using or supporting those who use our services.
- 3. The accessibility of our services (Inpatient, outpatient, and outreach) for patients and other health care professionals
- 4. Recognition of our success

Providing our patients with high quality clinical care is our top priority and we know how important it is to patients and their families to know that when they have to come into our hospital, they are going to receive the best possible care, be safe and cared for in a clean, welcoming and infection free environment. That is why we are continually implementing quality improvement initiatives that further enhance the safety, experience, and clinical outcomes for all our patients.

We recognize our staff are our superpower and continue to support them to do the best work of their lives and we remain committed to fostering a workplace culture that inspires collaboration, empowers individuals, and cultivates the importance of diversity, equality and inclusions Our Quality Report provides a brief overview of how we did and intend to go even further during the coming year and beyond to build on this solid foundation. We will continue to promote a culture of continuous quality improvement and encourage our staff to innovate and adopt 'best practice' in order to deliver the highest standard of care to our patients.

I am proud of our well-balanced business and exceptional team and am convinced that 2025 will bring a wealth of possibilities for us to keep transforming the world of Rehabilitation healthcare services, our business is well-diversified and resilient, and I trust in our ability to navigate with agility, vigilance, and discipline.

We remain steadfast in our efforts to create a more sustainable future for our teams, our clients, our communities, as well as for the whole healthcare industry. We have entered 2025 with renewed optimism and determination, and trust in our ability to develop solutions and deliver on our purpose.

I wish to extend my sincere thanks to our employees, and clients for their trust and ongoing confidence in our company.

Dr Ali Al-Memar Consultant Neurologist

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A message from the Chief Operating Officer

This year has been a transformational year for Ascot Rehab, marking our continued evolution as a leader in neurorehabilitation. Winning the 2023 King's Award was more than just recognition, it was a powerful reminder of why we do what we do. It motivated us to push further, expand our impact, and continue delivering exceptional care to every patient who walks through our doors.

Our move to London was a milestone in our journey, establishing us as the city's only Centre of Excellence in neurorehabilitation. This move wasn't just about a new facility, it was about enhancing our capabilities, broadening our reach, and ensuring we remain at the forefront of specialist rehabilitation. Being centrally located allows us to welcome patients from across the globe, offering them the highest level of care in an environment designed for recovery and progress.

But beyond the facility, what truly sets Ascot Rehab apart is the expertise and dedication of our team. Across all our sites, our therapists, nurses, and specialists work tirelessly to deliver outstanding, patient-centered care. We have expanded our team, introduced new training initiatives, and strengthened our multidisciplinary approach, ensuring that our expertise continues to grow. Our commitment to excellence means that every patient receives a tailored rehabilitation journey, focused not just on recovery but on restoring independence and confidence.

Our outpatient services have also expanded, allowing us to offer high-quality rehabilitation across multiple locations. By broadening access to specialist care, we ensure that more people can benefit from our expertise, whether they need intensive inpatient rehabilitation or structured outpatient support.

Looking ahead, Ascot Rehab mission remains clear. We will continue to raise the bar, challenge expectations, and redefine what's possible for our patients. We take immense pride in seeing them regain their strength, independence, and quality of life, and we remain dedicated to supporting them at every stage of their recovery journey. This year has been a testament to what we can achieve together, and the future holds even greater possibilities.

Maha Ali Chief Operating Officer

























A message from Registered General Manger

As we reflect on the past year, the Ascot Rehab team has demonstrated resilience, adaptability, and an unwavering commitment to patient-centered care.

Despite the significant challenge of relocating our facility, our dedicated team has maintained the highest standards of clinical excellence, ensuring that our patients continue to achieve their rehabilitation goals and positive health outcomes. This report highlights our successes, the challenges we have overcome, and our vision for the future.

Our foremost priority has always been the recovery and well-being of our patients. Throughout this transition, we have maintained our high standards of care, with clinical data reflecting strong patient progress and goal achievement. Our multidisciplinary teams have worked collaboratively to ensure continuity of care, even amidst logistical hurdles. The process of relocating a hospital is inherently complex, requiring seamless coordination across multiple domains, including infrastructure, staffing, technology, and regulatory compliance. While we encountered unforeseen obstacles—ranging from logistical delays to technology integration challenges—our leadership team remained steadfast in steering the transition with strategic foresight and operational agility.

With our relocation now successfully completed, we stand poised for a new era of growth and innovation. Our new center of excellence offers enhanced rehabilitation spaces, state-of-the-art technology, and an environment designed to optimize recovery and comfort. As we move forward, we will continue to strengthen our patient-centered programs, expand our research initiatives, and deepen collaborations with academic and clinical partners to drive continuous improvement in neurorehabilitation.

Our dedication to excellence has been formally recognized through our recent accreditations with the Care Quality Commission (CQC), the Commission on Accreditation of Rehabilitation Facilities (CARF), and Comparative Health Knowledge Systems (CHKS). These accreditations serve as a testament to our unwavering commitment to the highest standards of patient care, safety, and operational excellence. Achieving these prestigious certifications reinforces our promise to continuously enhance the quality of our services and maintain a culture of continuous improvement. While this past year has tested our resilience, it has also reinforced our shared purpose and collective strength. We have emerged from this transition stronger, more agile, and more determined than ever to deliver world-class neurorehabilitation. The future holds immense promise, and together, we will continue to empower our patients to regain their independence and lead fulfilling lives. Additionally, we recognize the importance of investing in our team. By prioritizing professional development, fostering a culture of excellence, and ensuring the well-being of our workforce, we will continue to attract and retain top-tier talent dedicated to transformative patient care.

I extend my deepest gratitude to our staff, patients, and stakeholders for their unwavering trust and dedication. Let us embrace the opportunities ahead with confidence and a renewed commitment to excellence.

Sandra C Chinyere General Manager

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A message from the Medical Director

It is my pleasure to update our service users, stakeholders, and the public on our progress at Ascot Rehab in 2024. This year marked a significant transformation with our move to London; a relocation that has seen a substantial investment in state-of-the-art technologies firmly establishing us as a leading neurorehabilitation provider in the capital.

Our Move to London

Our new London facility has been carefully designed with our patients at the center of everything we do. This move is not just about a new address; it enhances our capabilities and extends our reach. The modern facility, featuring cutting-edge infrastructure and thoughtful design, creates an environment that optimizes recovery and comfort for patients from across the globe. Innovative Technologies in Our Gym

We have upgraded our rehabilitation gym by integrating advanced equipment, including:

- Lokomat Pro Gait Training: A robotic device that supports patients with impaired walking, offering adjustable body weight support and precise guidance to help relearn walking patterns.
- Armeo for Upper Limb Rehabilitation: Combining mechanical assistance with interactive computer-based exercises, this system enhances strength, coordination, and movement in the upper limbs.
- Valedo®Motion for Back Pain Relief: Using sensor-based feedback, this system helps patients
 improve posture and strengthen core muscles, reducing back pain and improving spinal
 function.

These technologies enrich our therapeutic toolkit and further improve patient outcomes. Commitment to Quality

In our new facility, we have continued to refine our care processes to ensure safe and effective treatment. Our focus on clinical effectiveness, patient experience, accessibility, and quality management has helped us maintain our 'Outstanding' rating from the Care Quality Commission (CQC).

Celebrating Success and Looking Ahead

We are proud to have received the 2023 King's Award, an honor that confirms our commitment to excellence. High levels of patient satisfaction further highlight the exceptional work of our management, medical consultants, therapists, nurses, and support staff. Their dedication and collaborative spirit underpin our tailored, multidisciplinary approach to care.

As we move into 2025, our goal is to embrace new opportunities, continue to enhance patient care with advanced treatments and technology, and strengthen our expert collaborations.

Dr Khaled Abdel-Aziz Consultant Neurologist

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Our New Hospital



In 2024, Ascot Rehabilitation entered a new phase in its development with the opening of our state of art hospital in London. This relocation marks a key milestone in our journey since launching in 2012, enabling us to enhance the delivery of consultant-led, transdisciplinary rehabilitation within a modern, carefully designed environment.

The new facility was designed with the patient journey at its center. It includes 14 private en-suite rooms, two fully equipped rehabilitation gyms with a range of therapeutic equipment and technology, allowing patients to access intensive physical therapy within steps of their room, our hydrotherapy pool provides an environment for low-impact physical therapy where clinically appropriate. Beyond core therapy spaces, the facility features specialist treatment rooms, including a therapy kitchen for developing independence in daily activities, and an outdoor garden that offer patients and families a tranquil space to relax, promoting mental wellbeing and recovery in a more natural setting.

Our model of care remains consistent, with 24-hour nursing, regular input from senior consultants, structured therapy programs six days a week, designated key workers and therapy team, and regular multidisciplinary goal planning reviews.

We also continue to provide the essential hospitality services that enhance the day-to-day patient experience, from fresh, clinically appropriate meals to daily laundry, interpreting support, and thoughtful details that reduce the burden on patients and their families.

This expansion represents a major investment in the future of rehabilitation care in London. While our setting has changed, our values and approach remain the same: to offer recovery through excellence, in every detail, every day.

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Centre of excellence



As London's only recognized Centre of Excellence, Ascot Rehab is proud to be leading the way in robotic and technology-assisted rehabilitation. Our purpose-built facility is equipped with some of the most advanced tools in the field, enabling our clinicians to deliver highly personalized, effective, and engaging therapy programs.



Our rehabilitation suite includes a full range of Fourier Intelligence's robotic devices ArmMotus™, ArmMotus™ EMU, ArmMotus™ M2, WristMotus™, OTParvos™, AnkleMotus™, CycleMotus™, CycleMotus™, CycleMotus™, PelmaMotus™, HandyRehab™, BalanceMotus™, and KINE-SIM each designed to target specific areas of recovery, from fine motor control to full-body balance and mobility. These technologies are used as part of an integrated clinical approach, enhancing traditional therapy with precise, data-driven interventions that support measurable progress. By blending our expert therapist skills with innovative rehabilitation tools, we offer our patients every advantage on their recovery journey. Our investment in this technology reflects our ongoing commitment to excellence, ensuring that every patient benefits from the latest advancements in the field.

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Rehabilitation Care and Therapy Team

At Ascot Rehab, rehabilitation is a continuous process, deeply embedded in a multidisciplinary team committed to achieving the best outcomes for every patient. With each individual's recovery at the core of our approach, we integrate cutting-edge technology, hands-on therapy, and expert support to ensure a truly personalized experience.

The move to our state-of-the-art facility in London SW16 has further enhanced our rehabilitation services, giving patients access to the best possible resources. As the only Centre of Excellence in London for Fourier Intelligence, we remain at the forefront of robotic rehabilitation, with advanced technology with devices that bring precision, engagement, and measurable progress, helping patients regain strength, mobility, and independence through structured, evidence-based interventions.

The Lokomat, Biodex, and hydrotherapy pool remain key differentiators in our rehabilitation offering, ensuring that every patient has access to comprehensive, tailored recovery pathways. Rehabilitation at Ascot Rehab is deeply collaborative, with therapists, nurses, and dedicated carers working together to embed therapy into daily life. This holistic approach ensures that progress made in sessions translates into real-world improvements, helping patients regain independence and confidence. While the team has evolved following the relocation, our exceptional standards remain unchanged, with a diverse group of specialists bringing expertise in neurorehabilitation to support each patient's journey.

Ongoing education and training remain a priority, ensuring our team continually refines techniques, embraces innovation, and elevates patient outcomes. New training programs have strengthened clinical expertise, reinforcing our position as leaders in complex neurological rehabilitation. This environment of continuous learning optimizes skills, maximizes technology, and ensures that every patient receives the highest quality of care in every aspect of their stay



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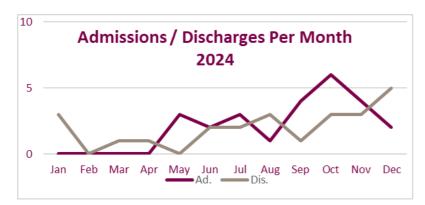


Inpatient Services

Since our relocation to London, 30 patients have been admitted to Ascot Rehabilitation. These admissions reflect the hospital's ongoing role in providing specialized rehabilitation care to individuals with complex needs. Our team continues to tailor treatment to each patient, ensuring that care plans are personalized and outcomes-focused. This data not only demonstrates the reach of our services but also helps guide future planning, resource allocation, and continued improvement in patient care.

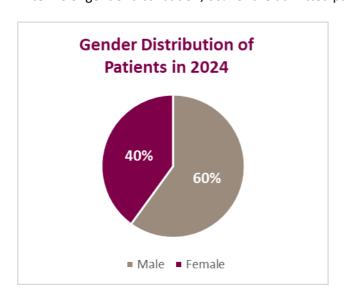
Inpatient Admissions: Service Demographics, Data and Summary

Since the relocation, a total of 30 patients has been admitted to Ascot Rehab.



Gendre distribution:

In terms of gender distribution, 60% of the admitted patients were male and 40% were female.



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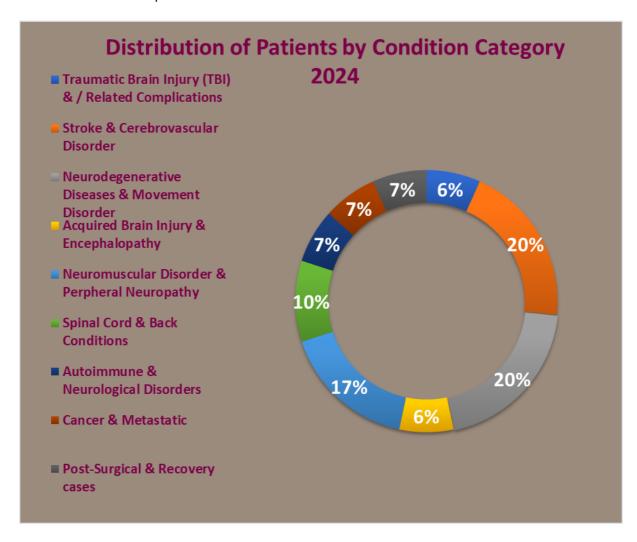






Reason for admission:

During the reporting period, the majority of admissions were for stroke-related and neurodegenerative conditions. Understanding this patient profile helps inform future service planning, clinical pathways, and resource allocation, ensuring that our rehabilitation services continue to meet the specific needs of those we serve.



Length of stay

The length of stay for our patients varies depending on their individual needs and the complexity of their rehabilitation. On average, patients remain at Ascot Rehabilitation for around 8 weeks, providing sufficient time for tailored therapy and ongoing support. This flexible approach allows our multidisciplinary teams to work closely with each patient, adapting treatment plans as progress is made and ensuring that interventions are aligned with their goals. By allowing time for personalized care, patients have the opportunity to make meaningful gains in independence and functional recovery, which supports better long-term outcomes once they return home or transition to other care settings.

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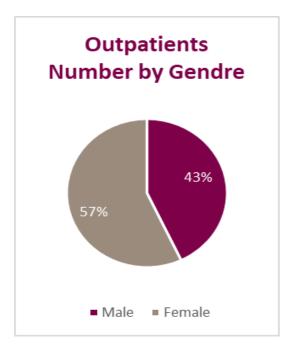


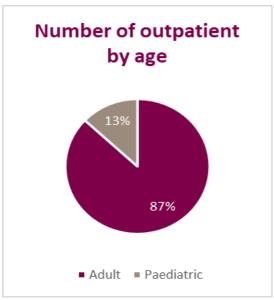




Outpatient Services

In 2024, our outpatient service continued to provide high-quality rehabilitation and therapy to individuals across all ages with over 3600 sessions provided. Located in central London, the facility offers accessible support for both adult and pediatric patients who require ongoing therapy but do not need inpatient admission. The outpatient team works closely with patients, families, and community providers to deliver care that aligns with individual goals, clinical needs, and daily routines. This service has allowed us to support continuity of care, early intervention, and flexible access to therapy, all of which are central to achieving meaningful outcomes.





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Governance Framework

A-Clinical Governance

Clinical governance is at the heart of how we deliver care at Ascot Rehabilitation. It ensures that all services are safe, effective, and continuously improving, and provides a framework for monitoring performance, maintaining standards, and supporting staff to deliver the best outcomes for our patients.

Clinical pathways and MDT meetings

We use structured clinical pathways to ensure patients receive care that is consistent, evidence-based, and tailored to their individual needs. Regular multidisciplinary team (MDT) meetings bring together doctors, therapists, nurses, and other specialists to review each patient's progress, adjust treatment plans, and coordinate care across disciplines. This collaborative approach helps ensure that patients receive timely, effective interventions and that care decisions are informed by a wide range of clinical expertise.

Compliance and incident management

Compliance with regulatory and internal standards is closely monitored across the hospital. All incidents are reported, thoroughly reviewed, and addressed promptly to prevent recurrence. Trends and lessons from incident reporting are analyzed and shared with teams, helping us to improve processes, reduce risk, and maintain a safe environment for both patients and staff.

CARF

Renewing our CARF accreditation is an important milestone for Ascot Rehabilitation. It reflects not only that we meet internationally recognized standards, but also that we have built a culture of continuous improvement. CARF's rigorous process examines every aspect of what we do; From patient outcomes to safety, governance, and the way we support our staff, and achieving reaccreditation in 2024 confirms that our care is consistent, accountable, and effective.

Our demonstrated through FIM-FAM outcomes, which continue to show that our patients make meaningful gains in independence during their time with us. Even as the complexity of the people we support grows, the results remain clear: our approach leads to recovery that is both measurable and life-changing.





















B-Non-Clinical Governance

Mandatary staff training

In 2024, Ascot Rehab ensured that all team members completed their mandatory training requirements. These were delivered through a blended approach of in-person sessions and online modules, covering key areas such as health and safety, infection prevention and control, safeguarding, and professional best practices. This commitment to structured, consistent training fortifies the delivery of safe, high-quality care across all departments. It also reflects our ongoing focus on clinical governance and continuous professional development, ensuring staff remain confident, competent, and prepared to meet the evolving needs of our patients.

Information Governance and Data Security

Maintaining the security and confidentiality of patient information is a key part of how we deliver safe, high-quality care. We follow the principles of the General Data Protection Regulation (GDPR) and are committed to upholding the highest standards of information governance across the organization.

All staff are aware of their responsibilities when handling personal and clinical data. Access to information is controlled, audited, and limited to those who need it in order to provide care or carry out essential duties. Our systems and procedures are designed to ensure data is used appropriately, stored securely, and protected against unauthorized access.

Data retention is also carefully managed. We ensure records are held only for as long as needed in line with legal requirements, and that secure disposal procedures are followed.

Information governance strengthens the trust patients place in us. It ensures that sensitive information is treated with respect, that privacy is protected, and that we continue to meet our legal and ethical obligations in every aspect of our work.

Keeping excellence through transition

Supporting Staff Through Change and Growth

2024 was a pivotal year in our journey. Moving into our new state of art facility in London gave us more than just a modern space, it gave us a fresh opportunity to reflect on how we work, support each other, and grow together. This transition came with challenges, but our focus remained clear, to support our people and, in turn, our patients.

We believe that quality care starts with staff who feel respected, supported, and empowered in their roles. That belief guided how we approached the move and continues to shape our culture going forward.

Equality, Diversity and Inclusion

This year, we continued our commitment to fostering an inclusive, diverse and respectful workplace, where everyone has an equal opportunity to thrive. We have focused on fair recruitment, and making sure our teams feel safe and valued. While we know there's more to do, we are building a culture where equity is expected, not optional.

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Fair Opportunities and Development

Ensuring equal access to growth and development remains an important priority. We've continued to support internal career progression and encourage staff to take on new challenges. By making pathways clearer and more inclusive, we are laying the groundwork for long term professional development and leadership from within.

Team Support and Wellbeing

The move to our new facility highlighted just how strong our team spirit is. Staff supported each other through a demanding time, helping maintain safe, high-quality care even as we adapted to a new environment. This collaborative approach was essential, and it reflected the kind of culture we want to continue building.

Patient Feedback & Satisfaction

Patient feedback is a vital part of how we shape and improve care at Ascot Rehabilitation. It provides insight into what we do well and where we can grow, ensuring that every patient feels supported and heard throughout their rehabilitation journey.

Catering / Food Hygiene

We are proud that our kitchen received a 5-star food hygiene rating in 2024, a reflection of the strong systems and daily practices that keep food safe and standards high. More than that, our food service is built on the idea that mealtimes should be a source of nourishment and enjoyment. Led by our dedicated chef and hospitality manager, the catering team prepares meals freshly on-site each day. The menu is diverse and responsive, offering a wide range of options, including halal meals and those tailored to all levels of texture modification for patients with swallowing difficulties. Every dish is crafted with clinical safety in mind, but never at the expense of flavour, variety, or choice. For many patients, these moments of good food and warm hospitality provide a reassuring sense of normality and care.

Cleanliness

Our dedicated housekeeping team plays a crucial role in infection prevention and in maintaining a sense of comfort and order throughout the facility. Every room and shared area are cleaned thoroughly each day, and extra measures are in place to ensure hygiene and freshness at all times. Patients benefit from a full laundry service, including daily linen changes, so neither they nor their families need to worry about personal washing or bedding. This service has been widely appreciated and contributes to an effortless stay.

Nursing and Care

Patients were highly satisfied with the nursing and care services, praising the personalized and compassionate care provided by our dedicated team. This approach significantly contributed to their overall recovery experience.



















Personal Support and Transport

Our personal support services, including assistance with daily activities, received positive feedback, Logistical concerns can become barriers to recovery, which is why we offer a private transport service for patients needing to attend off-site appointments. This removes the stress of arranging external travel, particularly for individuals with mobility issues or complex needs. Knowing that they will be safely and punctually transported by a familiar, and experienced driver allows our patients to stay focused on their progress, rather than being distracted by practical concerns.

Interpretation and coordinator Services

Interpretation services were valued by patients, especially those from diverse backgrounds, for facilitating clear communication and ensuring full understanding of their treatment plans. Clear communication is essential for safe, effective care, our interpretation services, including the vital work of our patient coordinators, played an important role in ensuring that every patient could fully understand ensuring full understanding of their treatment plans. Patients and their families told us they valued the support of interpreters and coordinators at every stage of their care.

Patient Overall Experience

Overall, patients expressed high satisfaction with their experience at Ascot Rehab, feeling well cared for and supported throughout their rehabilitation journey

We continue to receive exceptional feedback from patients and their families. Many have shared how supported and safe they felt, and how the attention to detail in rehabilitation, care and environment made their recovery smoother and more positive. The willingness of patients to recommend our service to others is one of the clearest indicators that we are delivering on our commitment to quality. These recommendations are not simply about clinical outcomes, but about the way patients feel seen, respected, and genuinely cared for



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Outpatient Physiotherapy, Academic Collaboration, Education & Research Achievements

In 2024, Ascot Rehab Outpatient Physiotherapy has made significant strides in expanding its academic and educational engagement, enhancing our department's profile as not only a provider of high-quality rehabilitation services but also a hub for clinical learning and research collaboration.

University Partnerships & Student Education

Our growing reputation as a high-quality clinical placement provider continues to drive meaningful partnerships with leading universities. Building on our established collaboration with Brunel University.

This year we successfully developed new affiliations with four leading institutions:

- King's College London
- St Mary's University, Twickenham
- Roehampton University
- London Metropolitan University

These collaborations have enabled us to take on a broader role in physiotherapy education. As a Practice Educator, our highly experienced therapist has continued to support and supervise BSc and MSc physiotherapy students during their 6-week clinical placements. These placements focus on a comprehensive learning experience that includes:

- Structured clinical exposure to musculoskeletal, neurological, and complex rehabilitation cases
- Training in assessment and treatment planning
- Hands-on guidance in manual therapy, electrotherapy, and exercise prescription
- Regular reflective sessions to support professional growth
- Supervision and feedback on case presentations and research-based assignments

This approach has received strong positive feedback from both students and university coordinators, reinforcing our department's role as a high-quality placement provider.

Research Engagement and National Recognition

This year, our expert therapist, Urvisha Lunagariya, had the honor of being invited by University College London (UCL) after the acceptance of my research proposal related to the Observing the effects of Valedo Motion in Improving trunk and pelvic stabilizations in patients with neurological conditions. Presenting this proposal to the academic and clinical panel at UCL provided a platform to highlight Ascot Rehab's contribution to cutting-edge, clinically relevant research.

In addition, our ongoing collaboration with Brunel University led to an invitation to their Health and Social Care Pre-Launch Event, where she represented Ascot Rehab among fellow clinicians, educators, and researchers. This event highlighted interdisciplinary networking and underlined our shared goal of advancing integrated care through academic-clinical partnerships.

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Further Professional Development & Educator Training

To further strengthen our educational standards, our therapist was invited by King's College London to participate in their Advanced Practice Educator Training. This experience enhanced our understanding of current pedagogical approaches, assessment frameworks, and feedback models in clinical education, equipping us to offer even more effective mentorship to students.

Outcomes & Organisational Impact

These achievements have significantly raised the profile of Ascot Rehab's outpatient physiotherapy team within both clinical and academic settings. The growing number of university collaborations reflects our commitment to fostering clinical excellence, evidence-based practice, and student development. Furthermore, this work contributes to:

- Enhancing our service visibility across educational institutions
- Supporting the next generation of physiotherapists
- Building a culture of academic inquiry and innovation within our clinical teams
- Encouraging staff engagement in teaching, training, and professional development

Through these ongoing collaborations and contributions, we are proud to demonstrate that Ascot Rehab is not only a leading provider of rehabilitation services but also an active contributor to physiotherapy education and research in the UK.



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Ascot rehab inpatient case study

Physiotherapy inpatient

This case study details the rehabilitation journey of an 18-year-old patient admitted to Ascot Rehabilitation following a cardioembolic left MCA ischemic stroke and subsequent Tissue AVR + MV repair with endocarditis debridement surgery. The patient exhibited significant motor impairments, requiring a structured and multidisciplinary neurorehabilitation program tailored to enhance mobility, strength, and overall independence.

Personal and Social Background

The patient, a bright and ambitious high school student, had dreams of becoming a pharmacist. She had always excelled in her studies and was eagerly preparing for university applications when her world turned upside down. Following this life-altering medical event, she struggled with uncertainty about her future, questioning whether she would ever be able to pursue her career aspirations. Her concerns extended beyond academics; she wondered if she would regain her independence and return to the life she once knew. This emotional aspect played a crucial role in her rehabilitation, as the therapy team not only focused on her physical recovery but also worked to rebuild her confidence and self-belief.

Initial Assessment

Upon admission, the patient demonstrated:

- Right-sided weakness, scoring 4-/5 globally on manual muscle testing.
- Severe dorsiflexor weakness (2+ score), contributing to foot drop and a slap-foot gait pattern, severely limiting mobility.
- Facial asymmetry due to weakness in risorius and buccinator muscles.
- Impaired coordination (Sara Ataxia Scale: 7/40).
- Moderate fall risk (Berg Balance Scale: 39/56).
- Functional limitations, requiring supervision for transfers and outdoor ambulation, unable to kneel and pray.

Cognitively, the patient remained alert, oriented, and demonstrated intact memory and attention, allowing active participation in therapy. Upon admission, she was placed on **sternal precautions** following surgery, which required her exercise plan to be initially tailored to avoid excessive strain on the upper chest and thoracic region.

A tailored, progressive rehabilitation program was implemented, integrating conventional neurological physiotherapy with cutting-edge robotic and gamified interventions:

30. Strength & Mobility Training

- Progressive weight-bearing exercises to enhance lower limb strength.
- Manual muscle re-education to improve selective control.
- Isolated dorsiflexor training using **Functional Electrical Stimulation (FES)** to restore active movement and prevent foot drop.

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• Resistance training utilizing Ankle-Motus for dynamic muscle strengthening.

2. Gait Rehabilitation

- Body Weight-Supported Treadmill Training (BWSTT) in early rehabilitation to normalize gait mechanics and improve endurance.
- **Biodex giat training system**, targeting gait, proprioception, postural control, and adaptive balance strategies.
- Advanced treadmill therapy, incorporating speed variations, incline walking (up to 15 degrees), and endurance progression.

3. Robotic & Gamified Interventions

- **Ankle Motus**: Intensive rehabilitation for foot drop, focusing on active dorsiflexion control and gait re-education.
- **Balance Motus & KINESIQ**: Enhancing static and dynamic balance with real-time biofeedback-based training.
- Fourier Intelligence ArmMotus M2: Upper limb motor recovery program, assisting in regaining functional arm movements.

4. Functional & Community-Based Training

- Stair negotiation training with progressive step height challenges.
- Outdoor terrain ambulation to improve real-world mobility.
- Return-to-activity drills, including functional running mechanics training.

Goals & Progressive Achievements

A structured, goal-oriented approach was taken, with defined targets at different rehabilitation stages:

Time Frame	Goal	Achievement Status
2 Weeks	Walk 30 meters indoors under close supervision	Achieved
2 Weeks	Perform sit-to-stand transfers independently	Achieved
4 Weeks	Walk 200 meters outdoors under supervision	Achieved
4 Weeks	Ascend and descend stairs under supervision	Achieved
6 Weeks	Walk 500 meters outdoors independently	Achieved
6 Weeks	Initiate continuous running for 100 meters	Achieved
8 Weeks	Sustain running for 10 minutes at 5-degree incline	Achieved
8 Weeks	Perform independent kneeling to standing transitions for independent praying.	Achieved
10 Weeks	Sustain running for 15 minutes at 10-degree incline	Achieved
10 Weeks	Perform all activities of daily living independently	Achieved





















Outcome measures

1. Balance Recovery (Berg Balance Scale)

The Berg Balance Scale, a 14-item objective measure assessing static balance and fall risk, highlighted severe balance deficits on admission, with an initial score of 39/56. This indicated moderate fall risk and impaired balance. Through targeted balance training and strength exercises, her progress was evident, with her score improving to 55/56 by mid-program and reaching a perfect score of 56/56 at discharge, reflecting complete functional recovery in balance.

Date	Score
13.09.24	39
08.10.24	55
30.10.24	56

2. Coordination Recovery (Sara Ataxia Scale)

The **Scale for the Assessment and Rating of Ataxia (SARA)**, which measures motor coordination, showed an initial score of 7, reflecting significant ataxia. Focused coordination exercises and neuro facilitation techniques led to substantial improvements, with her score improving to 2 at discharge, representing near-normal coordination and significant functional recovery.

Date	Score
13.09.24	7
30.10.24	2

3. Balance and Gait Recovery – Tinetti Balance and Gait Assessment

The **Tinetti Balance and Gait Assessment**, a combined measure of gait and balance quality, showed an initial score of 27, reflecting deficits in both domains. By discharge, her scores improved to 28, reflecting her return to premorbid functional levels, with enhanced balance and gait quality contributing to her overall independence.

Date	(Balance + Gait) Total Score
13.09.24	(16+11) 27
30.10.24	(16+12) 28





















Conclusion

This case highlights the remarkable recovery journey of an 18-year-old stroke survivor who, despite severe motor impairments and post-surgical restrictions, regained full functional independence through an advanced neurorehabilitation program. The integration of **robotics**, **gamified therapy along with conventional neurological physiotherapy** significantly enhanced engagement, motivation, and outcomes. Her story underscores the potential of cutting-edge rehabilitation technologies in maximizing neuroplasticity and restoring quality of life. Beyond her physical recovery, the rehabilitation process helped her regain confidence in her future. By discharge, she had not only met but exceeded expectations, achieving complete mobility, balance, and functional recovery; ready to reclaim her ambitions and take steps toward her dream of becoming a pharmacist.



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Ascot rehab 55 Wimpole Outpatient – case study

Case Study: Combined Effects of Physiotherapy and the GIGER MD Machine: A Case Series

By Urvisha Lunagariya, Ascot Rehabilitation Ltd.

Rehabilitation for patients with neurological and musculoskeletal conditions often requires a multimodal approach. While physiotherapy remains the cornerstone of recovery, technological innovations like the GIGER MD machine are showing promise in enhancing outcomes. Our recent retrospective case series explored the combined effects of physiotherapy and the GIGER MD device in improving mobility and exercise tolerance in patients with complex neuro-musculoskeletal conditions.

The study included 15 patients aged 13 to 64 years, presenting with conditions ranging from cerebral palsy, stroke, and traumatic brain injury to post-operative shoulder rehabilitation, chronic back pain, and carpal tunnel syndrome. Each patient underwent a program of combined physiotherapy and GIGER MD sessions, with additional therapies such as occupational therapy and orthotic support provided where needed.

The GIGER MD machine works on the principle of neuroplasticity. Patients lie supine and perform repetitive, pain-free bilateral limb movements in a closed kinetic chain. By engaging in thousands of coordinated repetitions, new motor pathways are stimulated in the brain, strengthening existing movement patterns. This not only aids functional recovery but also enhances endurance, balance, and coordination. Importantly, because the exercise is performed in a gravity-minimized position, patients can tolerate longer sessions without exacerbating pain or fatigue.

Key Findings

Two primary outcome measures were used:

- 1. **Functional Independence Measure (FIM)** assessing patients' ability to perform daily living activities.
- 2. **Performance graphs from the GIGER MD** showing energy expenditure, revolutions, coordination (harmonic movements), and heart rate response.

Across the cohort, there was a **consistent improvement in FIM scores**, indicating enhanced independence and mobility. For example:

- A **22-year-old female with bilateral hip dysplasia and cerebral palsy** improved her sitting tolerance from 10 minutes to 25 minutes and reduced hip pain from 5/10 to 2/10 after just five combined sessions.
- A **46-year-old male with post-COVID foot drop and reflex sympathetic dystrophy** increased his sitting tolerance from 5 minutes to 45 minutes, alongside notable improvements in walking endurance.
- A **16-year-old with traumatic brain injury** regained partial finger movement and improved walking tolerance after 16 sessions, highlighting the role of repetitive movement in neuroplastic recovery.

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Overall, all 15 patients demonstrated functional gains, whether through reduced pain, increased range of motion, improved endurance, or greater independence in activities of daily living.

Broader Implications

This study suggests that combining GIGER MD therapy with physiotherapy may provide additional benefits compared to physiotherapy alone. It allows patients not only to train muscle strength and flexibility but also to stimulate neurological recovery through intensive, repetitive, and pain-free movement training.

Importantly, the results highlight that:

- Age is not a limitation patients from early adolescence to older adulthood benefited.
- The approach is versatile it supports rehabilitation for neurological, musculoskeletal, and mixed conditions.
- Patient engagement improves visual feedback from the GIGER MD graphs motivates patients and tracks progress in real time.

Limitations and Future Scope

As a retrospective case series, this study does not allow for statistical comparisons across groups. Further research should explore larger controlled trials to quantify outcomes and separate the individual contributions of physiotherapy versus GIGER MD.

Nevertheless, these findings provide real-world evidence that integrated rehabilitation using advanced neuro-rehabilitative devices can enhance mobility, exercise tolerance, and independence in patients facing complex recovery challenges.

Below is a sample graph showing the **pre- and post-intervention FIM scores** of the 15 participants:















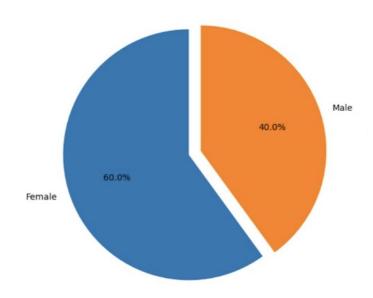


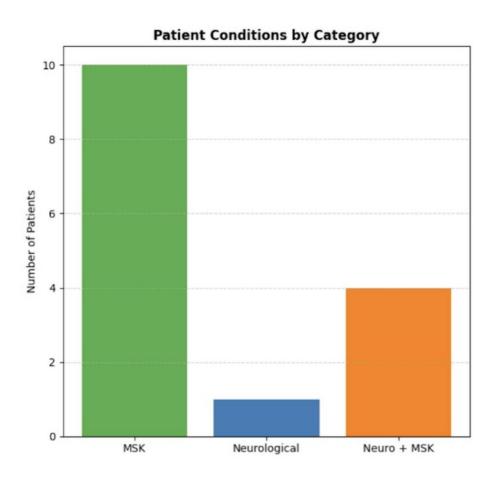






Patient Demographics by Gender





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