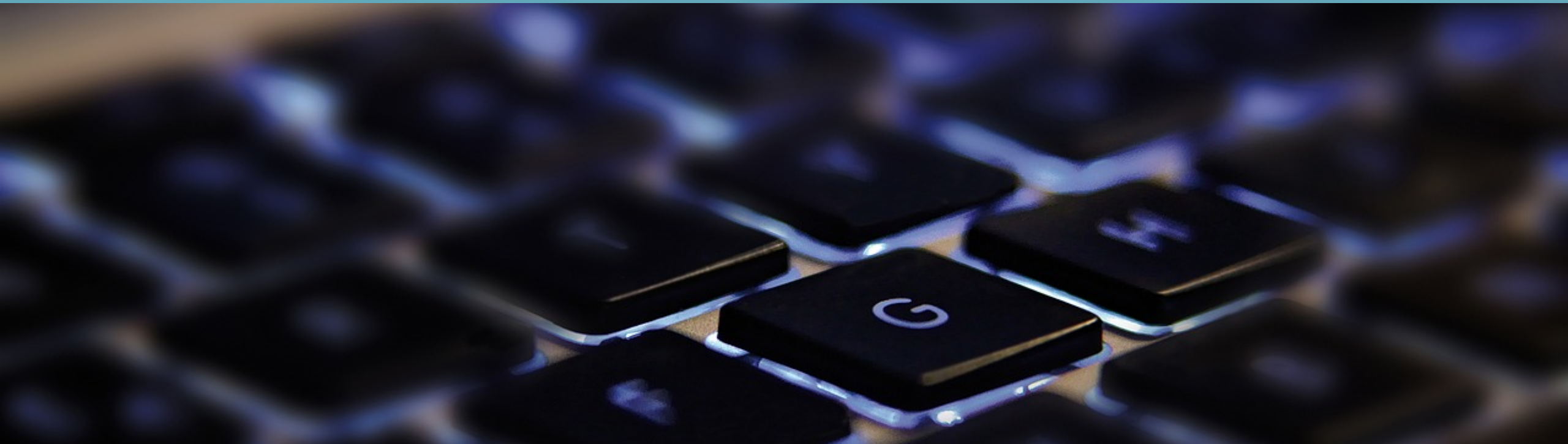
Innovations in Healthcare my practice and me

PHYSIO FIRST EST. 1952

CHAMPIONING PRIVATE PHYSIOTHERAPY

What is happening and what relevance could this be to me in my practice

With Katie Knapton and Kirsten Lord 14th March 2024



Big Data

Understand patient needs

Analyze patient data to identify health trends and personalized care opportunities.

Improve clinical decisions

Use predictive analytics to support better diagnostic and treatment decisions.

Enhance operational efficiency

Optimize workflows and resource allocation using data insights.

Big data analytics allows harnessing the power of patient data to transform healthcare delivery and improve outcomes.

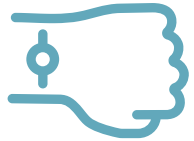
Artificial Intelligence

Diagnosis

AI can analyze medical images and data to detect abnormalities and diagnose conditions more accurately than humans.

Treatment

AI can recommend personalized treatment plans based on a patient's medical history and data.



Efficiency

AI and automation can reduce time spent on administrative tasks so doctors can focus on patient care.

AI and machine learning have huge potential to transform many aspects of healthcare and improve patient outcomes.

Pre-Assessment Tools

Digital questionnaires

Patients can complete questionnaires about their symptoms and medical history prior to their appointment.

Automated triage

Algorithms can analyze questionnaire responses to determine the patient's urgency and route them to the appropriate care pathway.

Integration with records

Questionnaire responses can be automatically added to the patient's medical record for provider review.

Pre-assessment tools allow for more efficient and informed care by gathering key patient information digitally prior to the appointment.

Electronic Health Records

Patient history

Doctors can access full patient medical history and records across healthcare systems.

Accessibility

Records available digitally to authorized medical staff anytime, anywhere.

Coordination

Various providers can securely share information to coordinate care.

Exercise Programmes

Electronic health records enable more efficient and improved patient care through digital information sharing.

Telemedicine

Remote consultations

Doctors can consult with patients remotely using video conferencing and other telemedicine technologies.

Remote monitoring

Doctors can monitor patient health remotely using connected devices and sensors that transmit data.

Expanded access

Telemedicine increases access to healthcare for rural communities and people with limited mobility.

Telemedicine utilizes technology to provide healthcare remotely, increasing access and conveniences for patients.

Gene Editing & Immunotherapy

Gene editing

Techniques like CRISPR allow doctors to edit genes to treat genetic diseases

Immunotherapy

Harnessing the immune system by engineering T cells to recognize and kill cancer cells

Gene editing and immunotherapy are exciting new frontiers in treating previously untreatable diseases.

3D Printing

Custom prosthetics

3D printing allows for customized prosthetic limbs tailored to each patient's needs.

Custom implants

3D printing enables personalized implants like jaw implants matched to a patient's anatomy.

Anatomical models

3D printing can create detailed anatomical models for surgical planning and medical education.

3D printing is transforming healthcare by enabling customization and improvements in prosthetics, implants, and anatomical models.

Robotic Surgery

Precision

Robots allow for enhanced precision and dexterity beyond human capability during surgery.

Minimally Invasive

Robots enable surgeons to operate through tiny incisions leading to less pain, scarring, and faster recovery for patients.

Enhanced Visualization

Robots provide surgeons with high definition 3D vision and magnification of the surgical site.

Overall, robotic surgery represents an important advancement in healthcare by enhancing surgical capabilities and improving patient outcomes.

Wearable Health Devices

Smartwatches track heart rate

Smartwatches with optical heart rate sensors can monitor heart rate throughout the day.

Smartwatches track sleep

Smartwatches use motion sensors to detect sleep duration and quality.

Smartwatches count steps

Smartwatches use accelerometers to count steps and track physical activity.

Wearable devices like smartwatches allow continuous, real-time monitoring of vital signs, activity, and sleep.

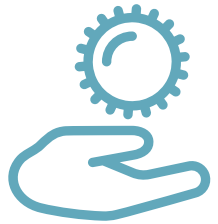
Virtual Reality

Training surgeons

VR simulations can help surgeons develop skills for specific procedures in a risk-free setting.

Virtual therapy

VR allows patients to be immersed in simulations that help treat phobias, PTSD, anxiety, and other conditions.



Remote collaboration

Doctors can use VR headsets to communicate and collaborate with other medical professionals remotely.

VR has many promising healthcare applications that can improve training, treatment, and communication.

Point of Care Diagnostics

Rapid results

Point of care tests provide results within minutes rather than hours or days. This enables fast clinical decision making.

Improved outcomes

Faster diagnosis and treatment can lead to better patient outcomes and survival rates.

Reduced costs

Rapid results reduce hospital stays and readmissions, lowering overall healthcare costs.

Point of care diagnostics are transforming healthcare by enabling rapid testing and results at the patient's bedside.

Conclusions and Discussion

Innovation in health care brings opportunities for improved patient outcomes and care.

Physiotherapy will continue so we need not be threatened but we could benefit from the innovations to reduce administrative time and support patients better.

It is truly important to be aware of the rapid changes in the market place for both us and for our patients.

Examples discussed in talk

These have not all been tested please use due diligence when utilising any new software

Clinical notes

https://www.patientnotes.app/

https://clinicalnotes.ai/

https://www.heidihealth.com/

Motion Sensor

https://www.qinematic.com/moovment

https://www.motionanalysis.com/campaign-biomechanics/

3D printing in Orthopaedics & Robotic surgery

https://www.conformis.com/

https://www.ncbi.nlm.nih.gov/

https://www.physiofirst.org.uk/resource/spring-2023-advances-in-lower-limb-management.html

VR and rehab

https://corpusvr.com/

https://www.dynamics-vr.com/en/

https://virtualisvr.com/en/functional-rehabilitation/