

Utilizzo della telemedicina per controllo del dolore nella dimissione precoce del paziente ortopedico

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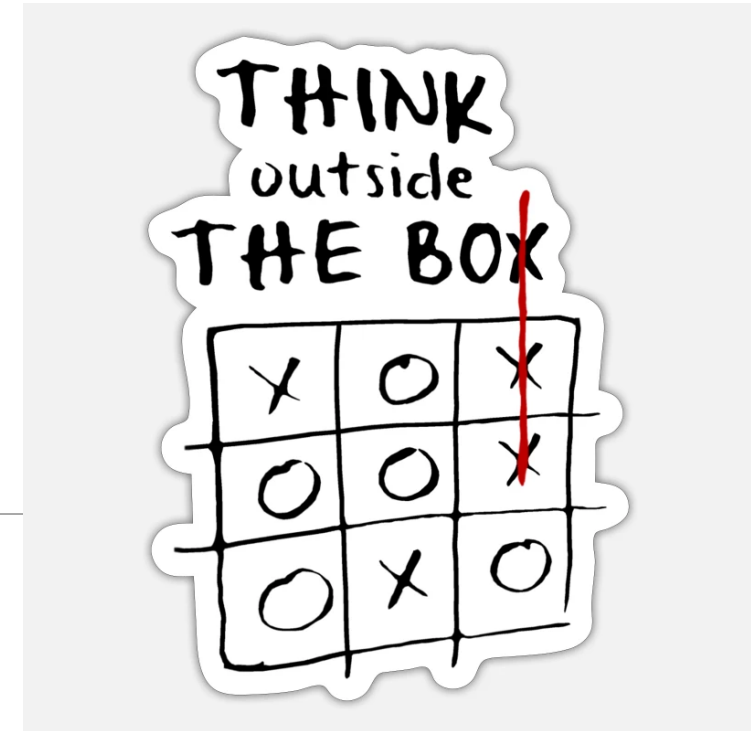
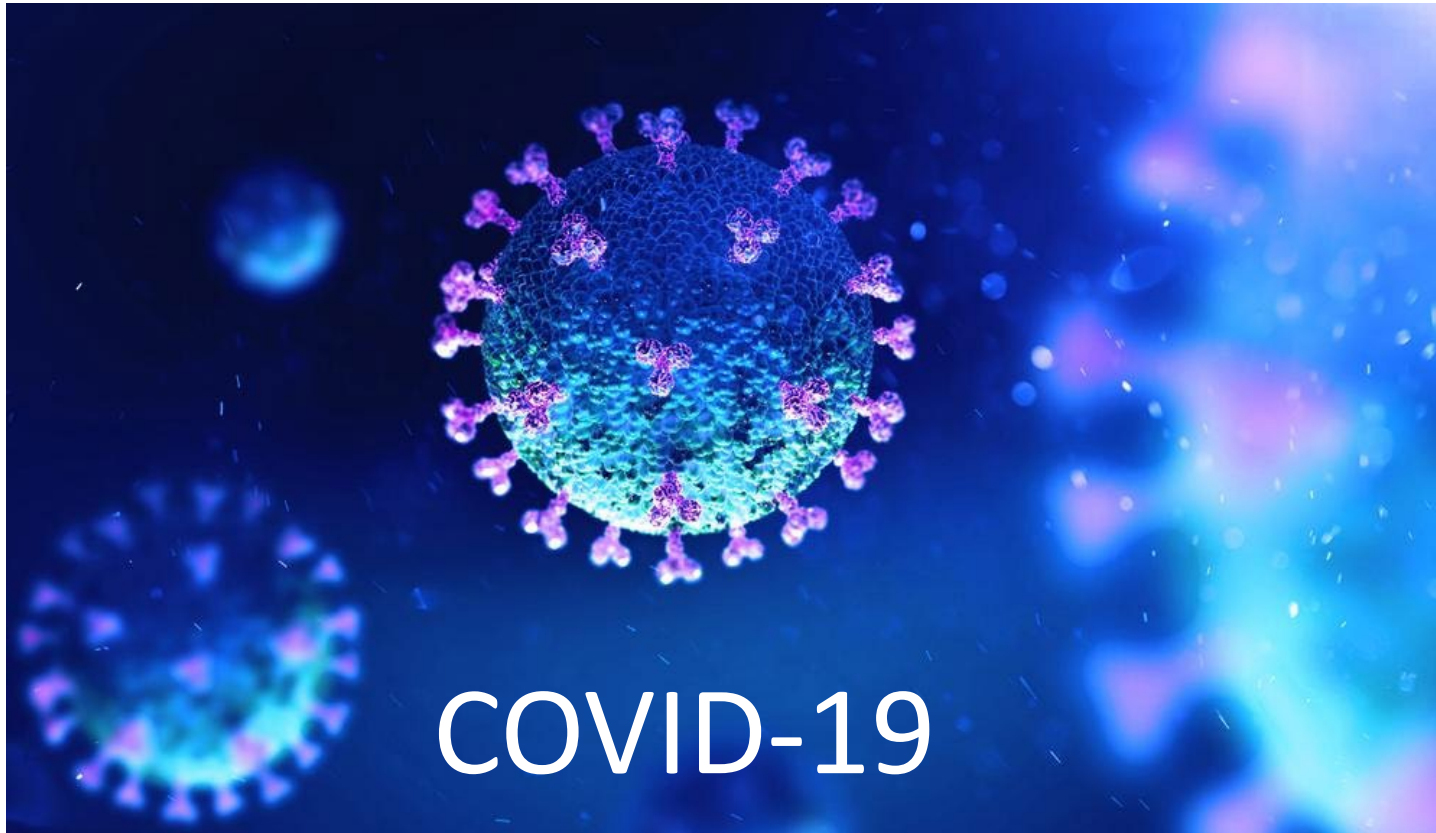
State of the Art Safety Standards in RA
THE EUROPEAN SOCIETY OF REGIONAL
ANAESTHESIA & PAIN THERAPY



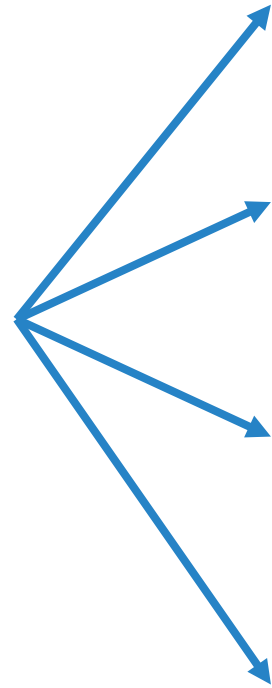
European Society of
Regional Anaesthesia
& Pain Therapy

ESRA ITALIA

How clinicians interact with patients ?



TELEMEDICINE



High quality health care

Good clinical outcomes

High patient satisfaction

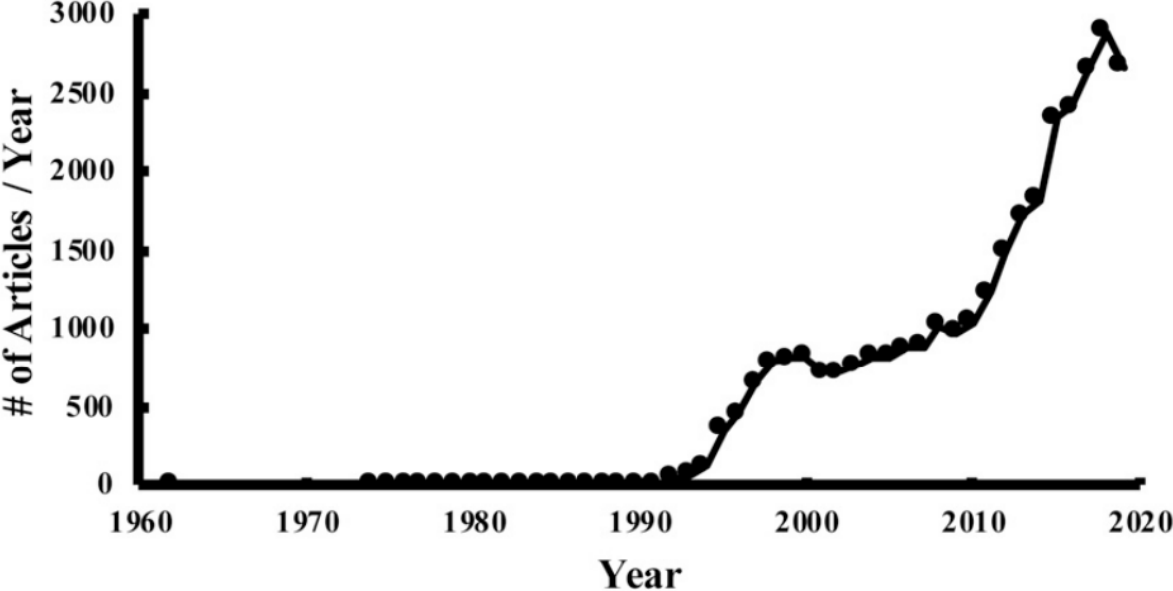
Cost-effective manner

TOOLS

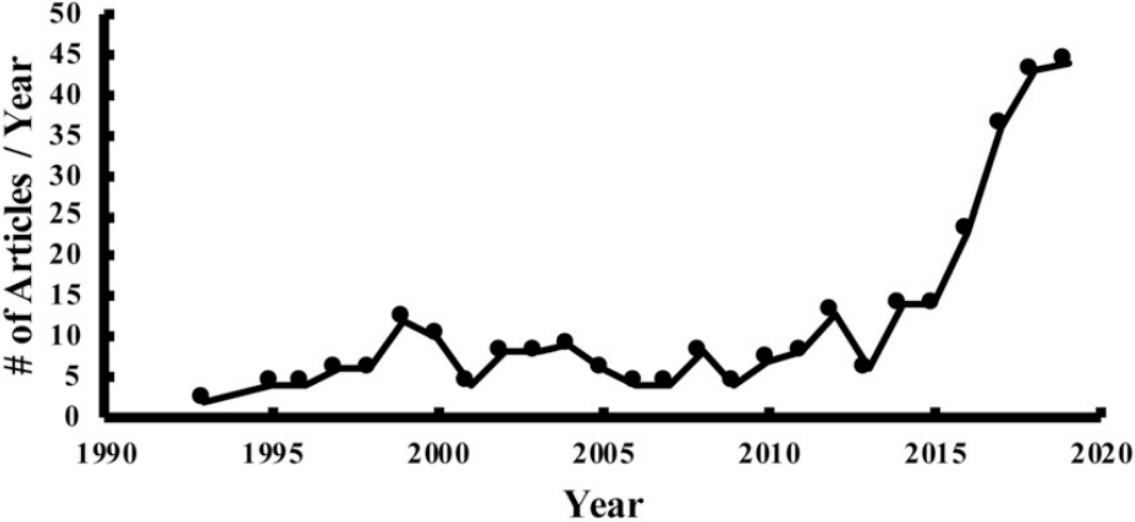


Telemedicine in Orthopaedic Surgery

Telemedicine Manuscripts (PubMed)



Orthopaedic Telemedicine Manuscripts (PubMed)



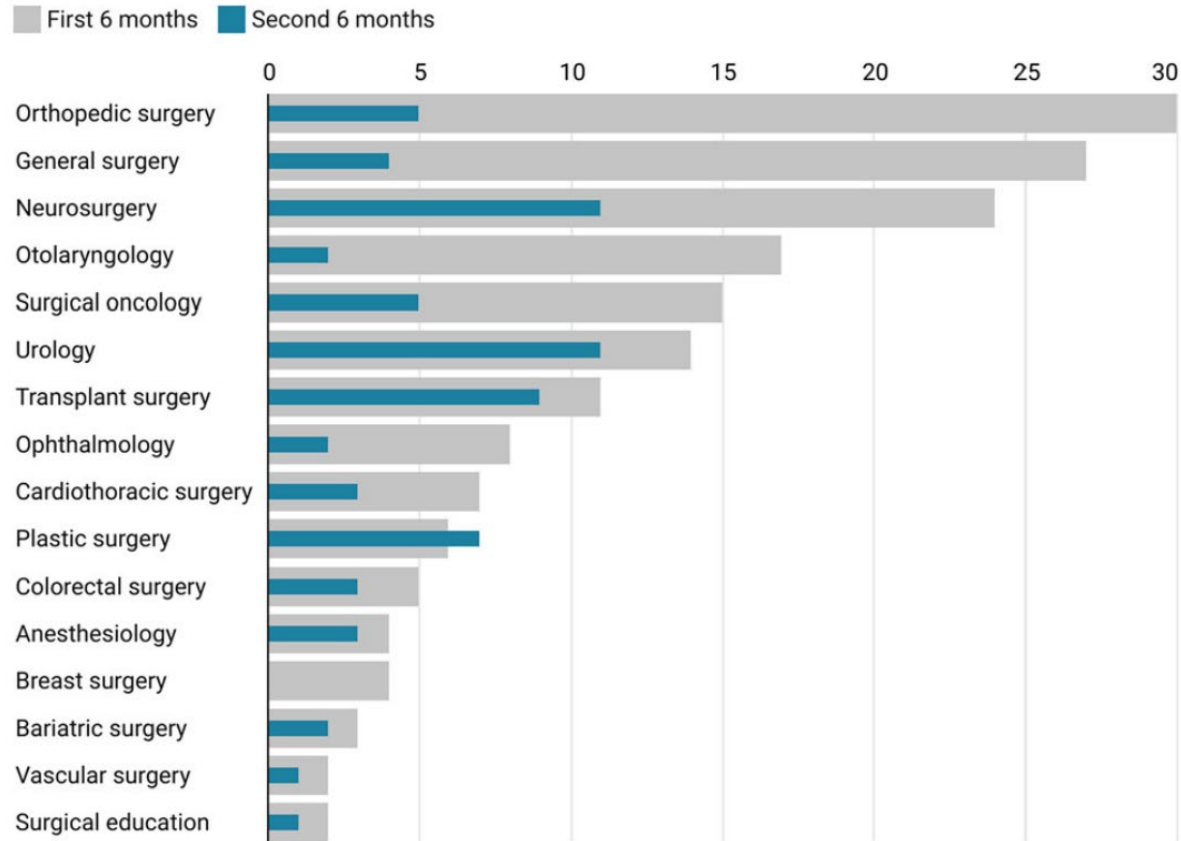
SURGICAL CATEGORIES

N	268
Where is your practice based?	
North America	66.9%
Other	33.1%
Where in North America?	
Midwest	15.9%
Northeast	55.1%
South	17.6%
West	11.4%
What type of practice do you have?	
Academic	36.3%
Hospital	25.5%
Private	35.6%
Other	2.6%
Are you fellowship trained	91.0%

What is your subspecialty?	
Arthroplasty	11.3%
Foot and ankle	4.2%
General	2.3%
Hand	6.8%
Oncology	1.5%
Pediatrics	0.8%
Shoulder and elbow	37.0%
Spine	5.7%
Sports medicine	26.8%
Trauma	3.8%
How do you do your visits?	
Doximity	9.0%
Facetime	2.7%
Hospital EMR	40.1%
Other	31.1%
WebEx/skype/zoom	17.1%

SURGICAL CATEGORIES

Number of publications stratified by surgical specialty



TELEMEDICINE FOR POSTOPERATIVE PATIENTS

80.8% of all patients evaluated with telemedicine

Do you use telemedicine for postoperative patients?	180 (80.8%)
Overall satisfaction with telemedicine for postoperative patients	75.5% (17.4)
Satisfaction with rapport	79.4% (16.4)
Satisfaction with physical examination	56.5% (25.8)
Satisfaction with imaging	53.6% (30.7)
Do you plan to continue to use telemedicine post-COVID-19 for postoperative patients?	90.0%

What average time it takes for a telemedicine visit?	
1–5 min	4.3%
6–10 min	7.1%
11–15 min	32.7%
16–20 min	15.6%
>21 min	40.3%



Visit time is **NOT** reduced

The Telemedicine Musculoskeletal Examination

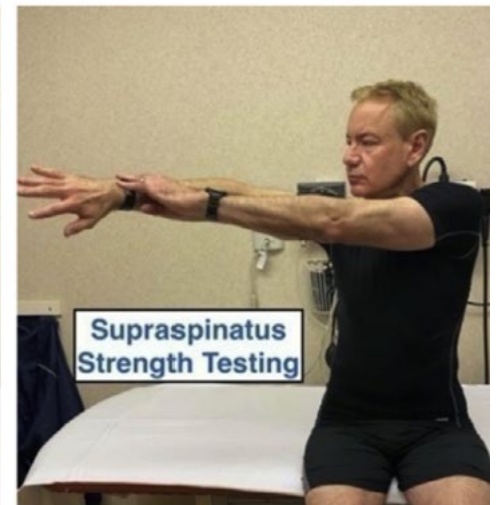
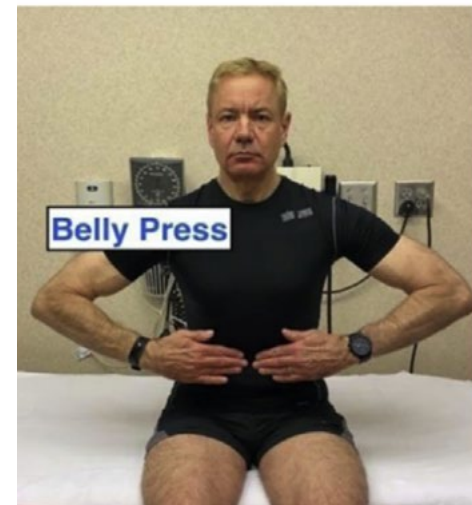
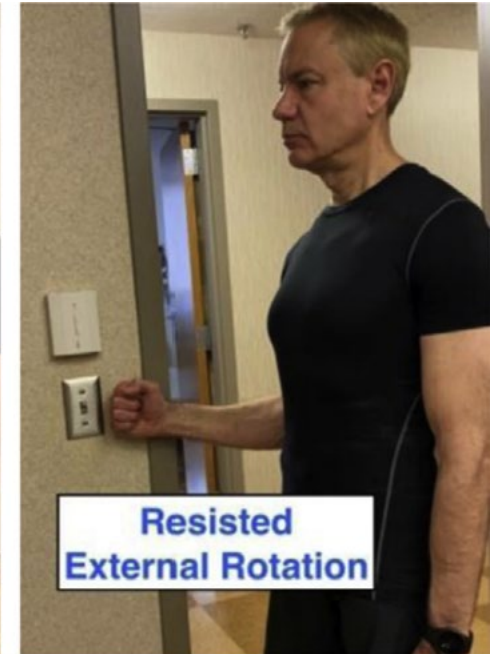
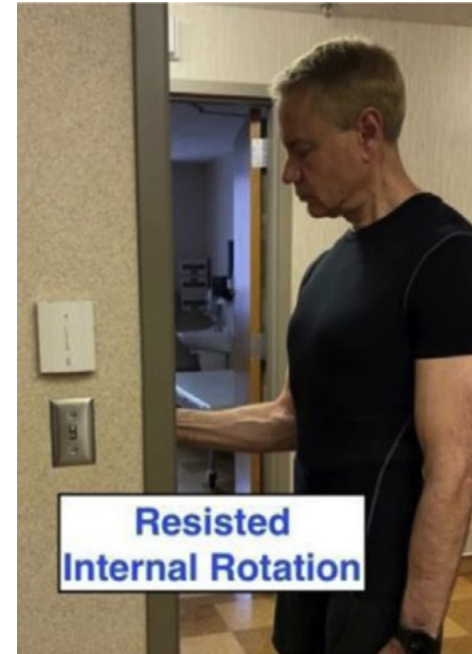
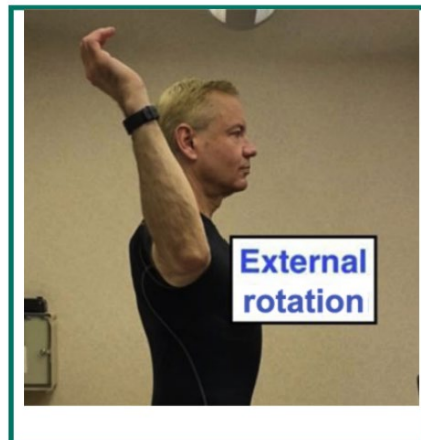
Edward R. Laskowski, MD; Shelby E. Johnson, MD; Randy A. Shelerud, MD;
Jason A. Lee, DO; Amy E. Rabatin, MD; Sherilyn W. Driscoll, MD;
Brittany J. Moore, MD; Michael C. Wainberg, MD; and Carmen M. Terzic, MD, PhD

How to perform a virtual musculoskeletal examination
→ specific set of guidelines

Range of Motion

EXAMPLE:

SHOULDER (SUPPLEMENTAL VIDEO 2,
AVAILABLE ONLINE AT [HTTP://WWW.
MAYOCLINICPROCEEDINGS.ORG](http://www.mayoclinicproceedings.org))



Evidence of Benefit of Telerehabilitation After Orthopedic Surgery: A Systematic Review

Jose Manuel Pastora-Bernal, MSc, B Physiotherapy, MBA, Rocio Martín-Valero, PhD, [...], and María José Estebanez-Pérez, B Physiotherapy



Strong evidence → **Total knee** and **hip arthroplasty**

Limited evidence → Upper limb interventions
(moderate and weak evidence)

Appropriate Telemedicine Utilization in Spine Surgery

Results From a Delphi Study

Iyer, Sravisht MD^a; Bovonratwet, Patawut MD^a; Samartzis, Dino DSc^b; Schoenfeld, Andrew J. MD, MSc^c; An, Howard S. MD^b; Awwad, Waleed MD^d; Blumenthal, Scott L. MD^e; Cheung, Jason P.Y. MBBS^f; Derman, Peter B. MD, MBA^e; El-Sharkawi, Mohammad MD^g; Freedman, Brett A. MD^h; Hartl, Roger MDⁱ; Kang, James D. MD^c; Kim, Han Jo MD^a; Louie, Philip K. MD^j; Ludwig, Steven C. MD^k; Neva, Marko H. MD, PhD^l; Pham, Martin H. MD^m; Phillips, Frank M. MD^b; Qureshi, Sheeraz A. MD, MBA^a; Radcliff, Kris E. MDⁿ; Riew, K. Daniel MD^o; Sandhu, Harvinder S. MD^a; Sciubba, Daniel M. MDP^p; Sethi, Rajiv K. MD^q; Valacco, Marcelo MD^r; Zaidi, Hasan A. MD^s; Zygourakis, Corinna C. MD^t; Makhni, Melvin C. MD, MBA^c

[Author Information](#)

SPINE 47(8):p 583-590, April 15, 2022. | DOI: 10.1097/BRS.0000000000004339




Spine surgery

High patient satisfaction

Significant cost savings

Rapid Adoption of Telemedicine Increases Opioid Prescribing in Orthopedic Surgery

David A. Bloom, Michelle A. Zabat , Stephane Owusu-Sarpong, Jacob F. Oeding, Lorraine H. Hutzler, Shengnan Huang, and

Claudette M. Lajam 

Published Online 29 Aug 2023 | <https://doi.org/10.1089/tmj.2022.0150>

Mary Ann Liebert, Inc.  publishers



Patients received significantly **higher MME** through video

Higher MME were prescribed by mid-level prescribers compared with DOs or MDs

MME milligram morphine equivalents

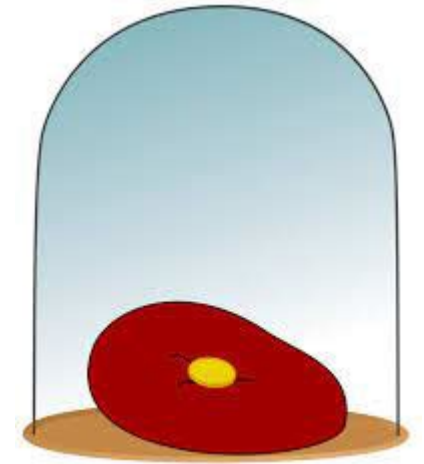
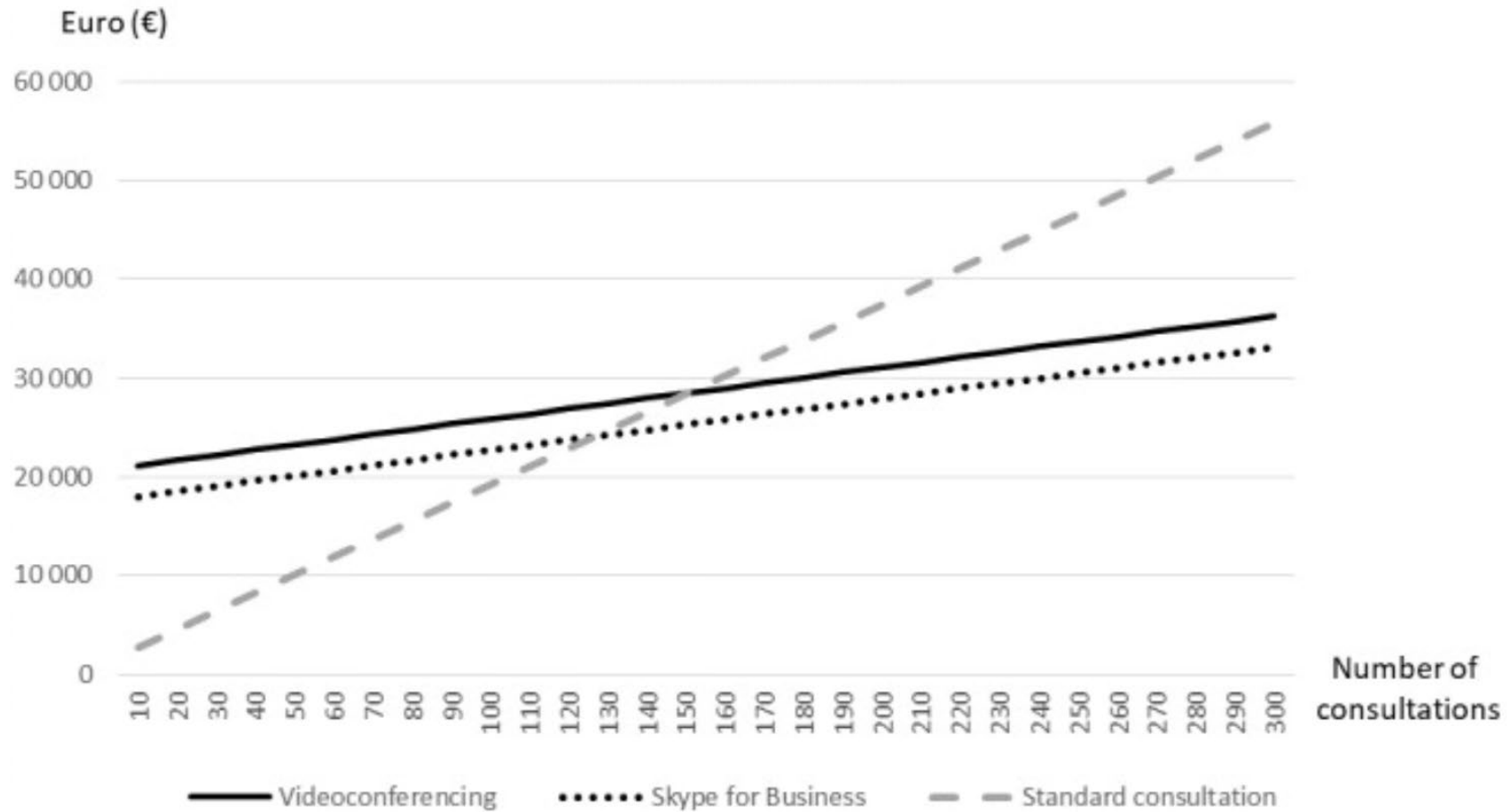
COSTS AND EFFECTIVNESS

Standard vs. remote consultations (1 Euro=9.60 Norwegian krone)

Costs and effectiveness	UNN ^a standard consultation	RMC ^b telemedicine consultation	Difference
Consultation costs^c (Euro)			
Investment cost videoconferencing ^d	0	3605	3605
Line rent	0	1250	1250
Room rent	0	3542	3542
Personnel costs (nurse) ^e	906	12,083	11,177
In need of a second consultation at the hospital ^f	0	204	204
Total annual costs	906	20,684	19,778
Cost per consultation ^g	3	69	66
Time and travel costs (Euro)			
Travel costs	149	41	108
Time costs ^h	34	11	27
Total time and travel costs per consultation	183	52	131
Total costs per patient consultation	186	121	65
Effectiveness (QALYs ⁱ gained)	.05	.09	.04 ^j

TOTAL ANNUAL COSTS

Teleorthopedic service including the Skype for Business alternative





LIMITATIONS



Access to technology

Barriers to use

Decreased Ability Physical Examinations

Possible Increased Medicolegal Exposure

Regulatory Barriers

Audiovisual Inefficiencies

USEFUL RESOURCES

Coverage	Useful Resources
State laws and reimbursement policies	https://www.cchpca.org/telehealth-policy/current-state-laws-and-reimbursement-policies#
Medicare	https://www.medicare.gov/coverage/telehealth https://www.cms.gov/newsroom/fact-sheets/medicare-telemedicine-health-care-provider-fact-sheet
Medicaid	https://www.medicaid.gov/medicaid/benefits/telemedicine/index.html
AAOS CPT code guide	https://www.aaos.org/globalassets/about/covid-19/aaos-coding-guide_covid19.pdf
AAOS startup checklist for practice management	https://www.aaos.org/quality/practice-management/telemedicine/

*Orthopaedic surgeons should understand coverage and reimbursement guidelines on a national basis, along with variations across different states. We have included resources to these as well as links to resources from the American Academy of Orthopaedic Surgeons (AAOS) that assist with practical aspects of establishing telemedicine practice and the process of billing for telemedicine encounters. CPT = Current Procedural Terminology.



POST OPERATORIO

- Mobilizzazione precoce, previa valutazione della possibilità di deambulare
- Deambulazione possibile dopo 4-6 ore dall'intervento con aiuto di fisioterapista





Le componenti tecnologiche

pca : Patient Controlled Analgesia

L'infusore è portatile.

- Appositi controlli impediscono una assunzione non voluta, sovradosaggi, accessi impropri al serbatoio, interruzioni del flusso.
- **Controllo da remoto continuo dello stato dell'infusione e del livello di dolore**
- Possibilità di inviare messaggi di alert
- via sms o mail : **STAZIONE DI ASCOLTO**





LA DIMISSIONE

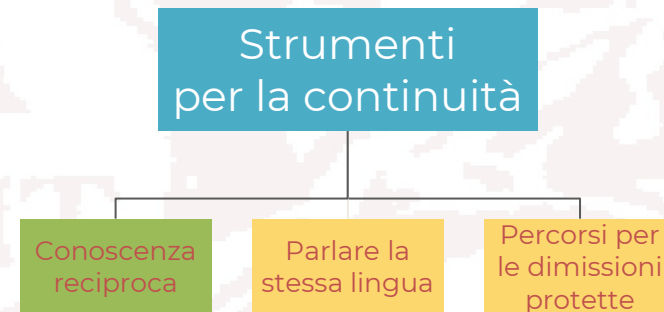
- Valutazione multidisciplinare del paziente
- conferma criteri di dimissibilità
- PBM e controllo del dolore->
- Dimissione sicura





CONTINUITÀ OSPEDALE-TERRITORIO

È necessario creare un percorso tra due sistemi complessi, ricorrendo a più STRUMENTI:



Tratto da:
Sanità Pubblica e Indicatori di Qualità dei Servizi
(POL)
Prof. Stefano Calciolari



Per realizzare una vera continuità

Le strutture esistenti nel Territorio devono essere

- **formate** (ex ante e al bisogno con video e materiali velocemente accessibili)
- **informate** (devono conoscere la situazione del paziente nel percorso di cura)

Il paziente deve poter accedere 24/7 a centri di ascolto

- per le problematiche tecniche (distributore del device)
- per gli aspetti clinici (Anestesisti del Pini)

Il paziente deve aver chiaro a chi può rivolgersi e in quale situazione.

Ogni nodo (MMG, Areu, Centri di ascolto) deve avere una mappa chiara della rete stessa.

Vi ringrazio per l'attenzione

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