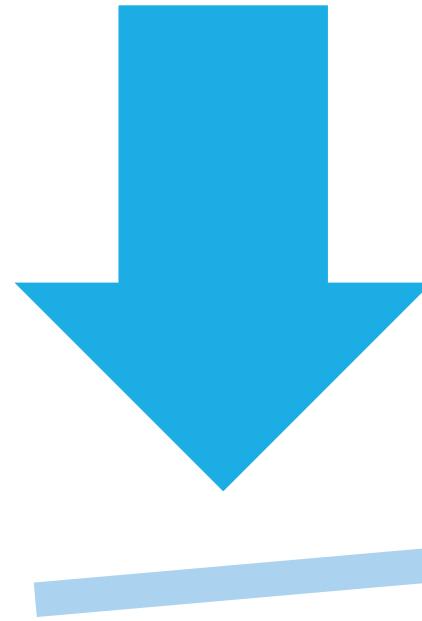


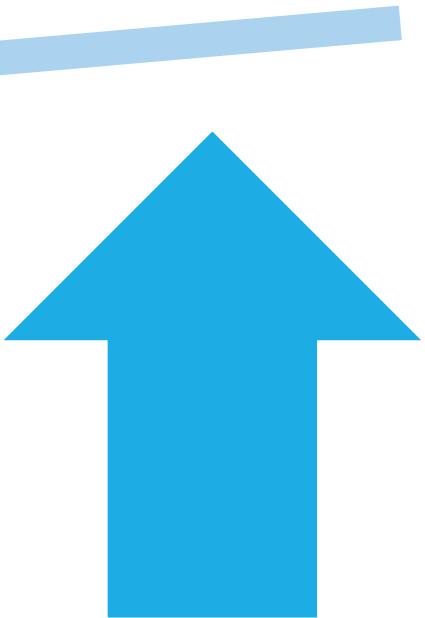
# APPS Y WEARABLES EN DOLOR

VICTOR MAYORAL ROJALS  
UTD ANESTESIOLOGIA  
HOSPITAL UNIV BELLVITGE

¿QUINES DADES?

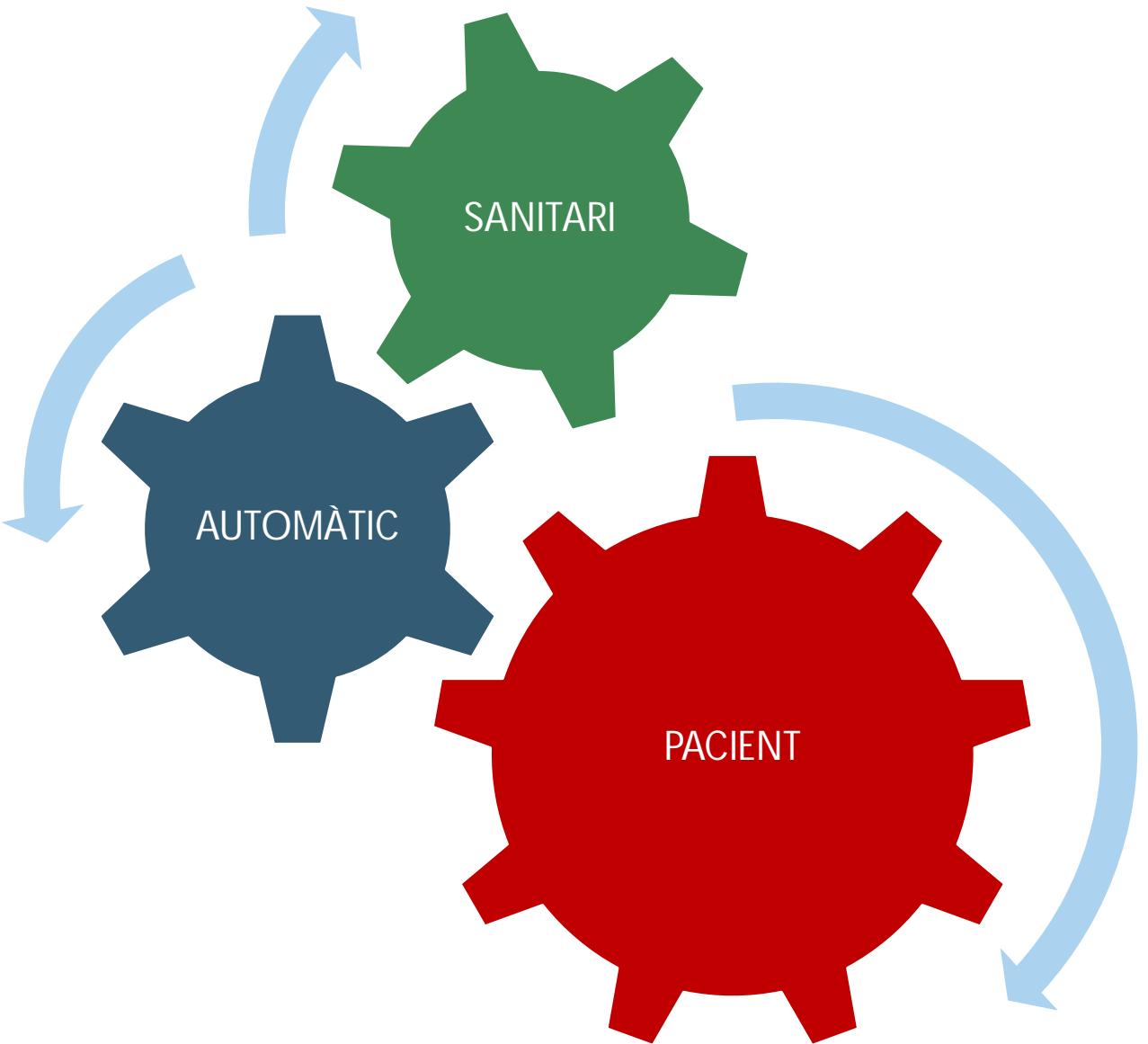


FUNCIONALITAT



INTENSITAT

¿QUI LES  
REGISTRA?



# IMMPACT

<http://www.immpact.org/>

## Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials

The mission of the Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials (IMMPACT) is to develop consensus reviews and recommendations for improving the design, execution, and interpretation of clinical trials of treatments for pain. The first IMMPACT meeting was held in November 2002, and there have been a total of twenty consensus meetings on clinical trials of treatments for acute and chronic pain in adults and children. Invited participants come from academia, regulatory agencies (US Food and Drug Administration, European Medicines Agency), US National Institutes of Health, US Veterans Administration, consumer support and advocacy groups, and industry. The disciplines represented at meetings varies but has included anesthesiology, clinical pharmacology, internal medicine, law, neurology, nursing, oncology, outcomes research, psychology, rheumatology, and surgery. For all IMMPACT meetings, an attempt is made to include broad representation while limiting the size of the meeting to promote vigorous and frank discussion and debate.

IMMPACT recommendations and systematic reviews have been widely cited and have guided the design of clinical trials, other types of clinical research, and a national survey. Additional consensus meetings are planned, and research initiatives involving the assessment of pain and the design and interpretation of clinical trials are ongoing. IMMPACT has received favorable responses from all of its stakeholders, who believe that this multidisciplinary initiative has made significant contributions to improved understanding of pain and its treatment.

# VARIABLES A RECOLLIR ...

## COMET INITIATIVE



The COMET Initiative logo features a stylized globe with blue and green colors, representing Earth.

**Core Outcome Measures in Effectiveness Trials**

**Navigation menu:**

- Home
- About COMET
- Search
- Events
- Resources
- COS Uptake
- Contact
- Public

**Left sidebar:**

- Overview
- Background
- Aims and objectives
- Who we are
- COMET endorsement
- Research projects
- Funding and support
  - FP7
  - FP7 IAG

**Overview section content:**

The COMET Initiative was launched at a meeting in Liverpool in January 2010, funded by the MRC North West Hub for Trials Methodology (NWHTMR). More than 110 people attended, with representatives from trialists, systematic reviewers, health service users, clinical teams, journal editors, trial funders, policy makers, trials registries and regulators. The feedback was uniformly supportive, indicating a strong consensus that now is the time for such an initiative. The meeting was followed by a second conference in Bristol in July 2011, which reinforced the need for core outcome sets across a wide range of areas of health and the role of COMET in helping to coordinate information about these.

The COMET Initiative brings together researchers interested in the development and application of agreed standardised sets of outcomes, known as a 'core outcome set.' These sets should represent the minimum that should be measured and reported in all clinical trials, audits of practice or other forms of research for a specific condition. They do not imply that outcomes in a particular study should be restricted to those in the core outcome set. Rather, there is an expectation that the core outcomes will be collected and reported to allow the results of trials and other studies to be compared, contrasted and combined as appropriate; and that researchers will continue to collect and explore other outcomes as well.

## COSMIN



**Navigation menu:**

- Find the right tool
- COSMIN tools
- Courses & Resources

**Section 1: COSMIN helps you select the most suitable outcome measurement instruments**

COSMIN aims to improve the selection of outcome measurement instruments both in research and in clinical practice by developing methodology and practical tools for selecting the most suitable outcome measurement instrument.

**Section 2: Make your research better**

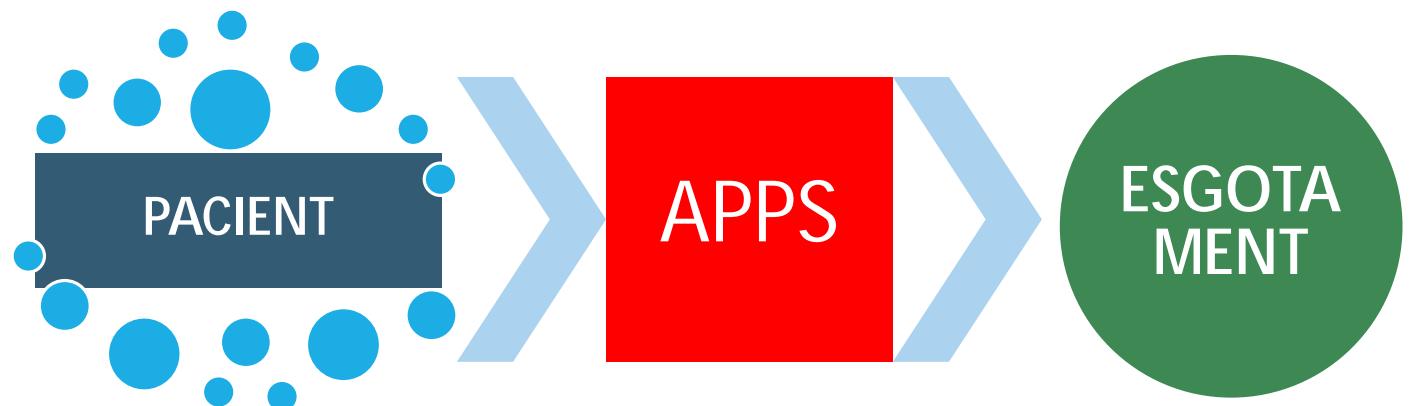
You can use our tools to improve the way you do research and the trustworthiness of your results.

**Section 3: What are you working on?**

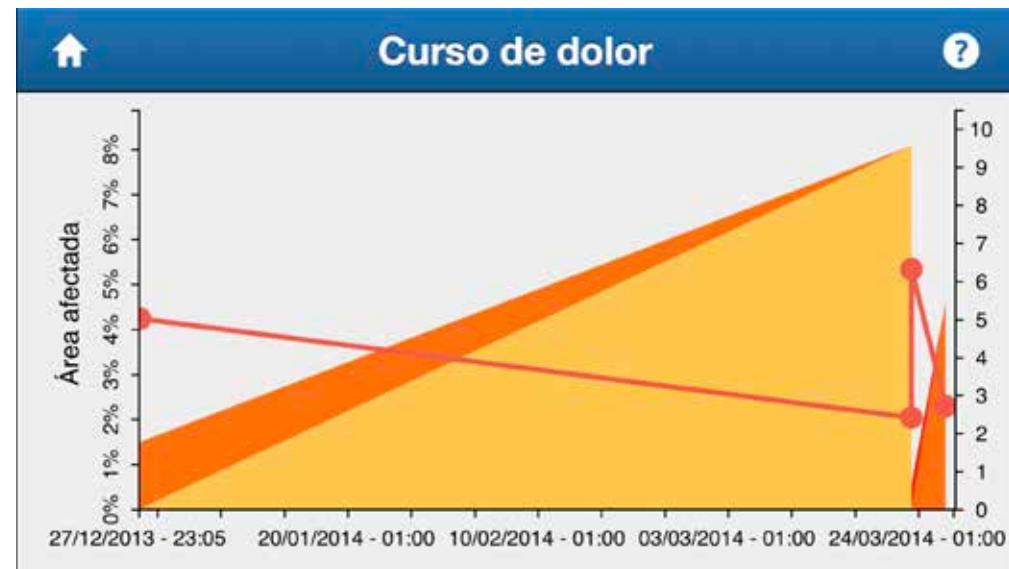
To find the right tool for your research, tell us what you are working on:

- I'm deciding what to measure
- I'm looking for available outcome measurement instruments
- I want to select the most suitable outcome measurement instrument
- I'm conducting a study on measurement properties
- I'm conducting a systematic review of outcome measurement instruments
- I'm developing a Core Outcome Set

INTENSITAT,  
LOCALITZACIÓ,  
HUMOR, FATIGA I  
CONSUM DE  
FÀRMACS



# CATCH MY PAIN



# ¿COM PODEM INCENTIVAR L'ÚS DE LES APPS?

FACILITAT D'US  
INTERFÍCIE AGRADABLE

FEED-BACK AMB ELS SANTARIS

FEED-BACK AMB ELS ALTRES PACIENTS

# PAIN SCALE

Learn about how PainScale users similar to you are managing their pain through the insights shared below.

Top Treatments Logged by Users with: Chronic Lower Back Pain

Prescription Pain Medication 29%	Bed Rest 20%	Sitting 18%
-------------------------------------	-----------------	----------------

Chronic Lower Back Pain affects:  
44% of PainScale Users

Top Medications Logged by Users with: Chronic Lower Back Pain

1. Gabapentin 29%	2. Ibuprofen 19%	3. Tylenol 17%
----------------------	---------------------	-------------------

How PainScale Users are Sleeping

Good 14%	Adequate 24%	Interrupted 53%	Did Not Sleep 9%
-------------	-----------------	--------------------	---------------------

All Time    30 Day

Home Learn Log Insights History

All Time    30 Day

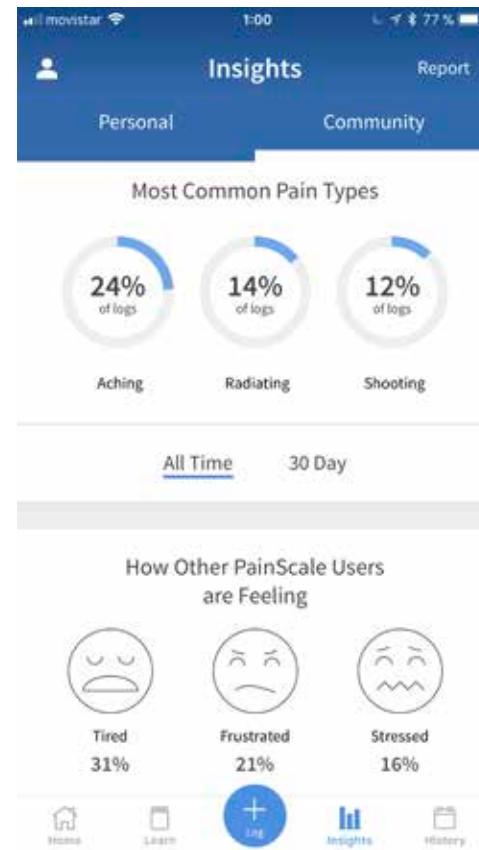
Home Learn Log Insights History

All Time    30 Day

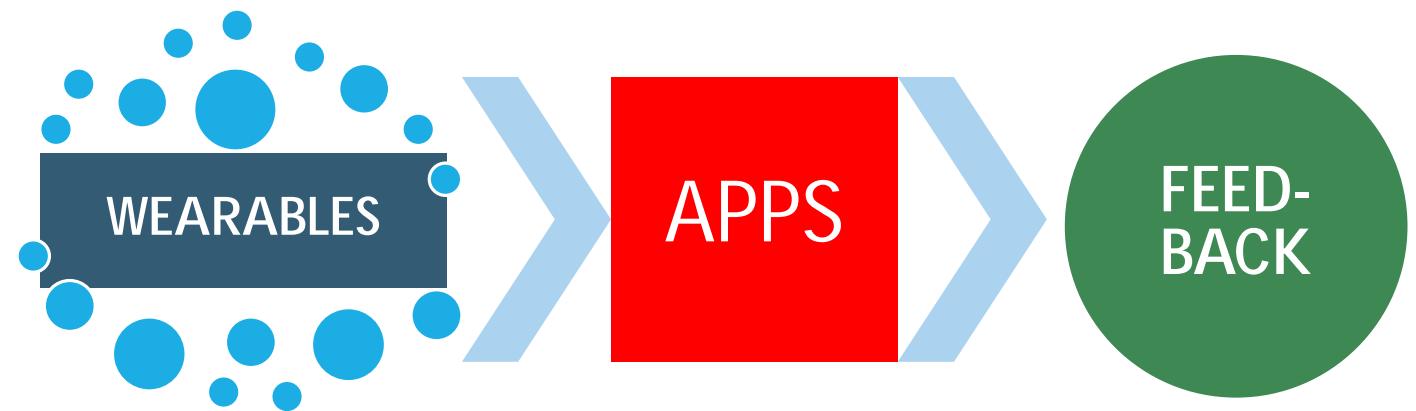
Prescription Pain Medication    Bed Rest

Home Learn Log Insights History

# PAIN SCALE



# FUNCIONALITAT (MOVIMENT I SON)



# MOVIMENT

PASSOS DIARIS

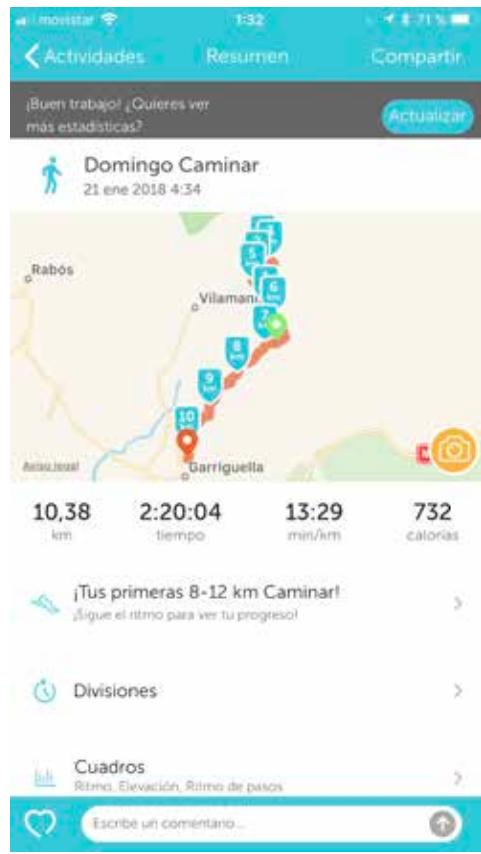
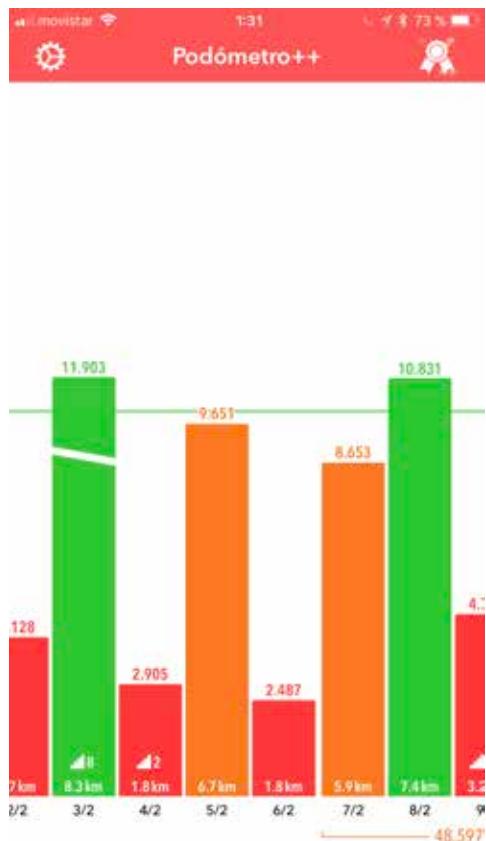
TRAINING

MONITOR  
D'ACTIVITAT

REPÒS

CALORIES

# IPHONE & APPLE WATCH



# ANÀLISIS DE LA SON

REM

NO REM

MONITOR  
DE LA SON

TEMPS INDUCCIÓ  
DE LA SON

RONCS I APNEES

# IPHONE & APPLE WATCH



# JAWBONE VS APPLE WATCH

**UP MOVE**

AVERIGUA MÁS

Una genial manera de estar en forma

- Aplicación UP gratuita
- Registro de comidas
- Monitoreo de actividad

**UP2**

AVERIGUA MÁS

Donde rendimiento y estilo se unen.

- Todas las funciones de UP MOVE
- Seguimiento del sueño
- Diseño delgado para usarlo las 24 horas, 7 días a la semana
- Batería recargable que dura 10 días

**UP3**

AVERIGUA MÁS

El monitor más avanzado del mundo

- Todas las funciones de UP2
- Frecuencia cardíaca pasiva y en reposo
- Actualizaciones por aire para nuevas funciones



JA TENIM  
LITERATURA AL  
RESPECTE

# Study to Test Efficacy of Interactive Wearable Device to Improve Pain Outcomes

November 16, 2017

*Patients under treatment for chronic pain at a Geisinger multidisciplinary pain program will be followed with the aim of reducing pain by 30% by using a wearable interactive device that collects data and offers reminders.*

By Jodi Godfrey, MS, RD

Ann. N.Y. Acad. Sci. ISSN 0077-8923

ANNALS OF THE NEW YORK ACADEMY OF SCIENCES

Issue: Annals Reports

## Mobile health: the power of wearables, sensors, and apps to transform clinical trials

Bernard Munos,<sup>1</sup> Pamela C. Baker,<sup>2</sup> Brian M. Bot,<sup>3</sup> Michelle Crouthamel,<sup>4</sup> Glen de Vries,<sup>5</sup> Ian Ferguson,<sup>6</sup> John D. Hixson,<sup>7</sup> Linda A. Malek,<sup>8</sup> John J. Mastrototaro,<sup>9</sup> Veena Misra,<sup>10</sup> Aydogan Ozcan,<sup>11</sup> Leonard Sacks,<sup>12</sup> and Pei Wang<sup>13</sup>

# JA TENIM LITERATURA AL RESPECTE

J Telemed Telecare OnlineFirst, published on November 9, 2016 as doi:10.1177/1357633X16679049

RESEARCH/Original Article

## Longitudinal trial of a smartphone pain application for chronic pain patients: Predictors of compliance and satisfaction

Robert N Jamison<sup>1,2</sup>, Anna Mei<sup>1</sup> and Edgar L Ross<sup>1</sup>

Journal of Telemedicine and Telecare  
0(0) 1–8  
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[sagepub.co.uk/journalsPermissions.nav](http://sagepub.co.uk/journalsPermissions.nav)  
DOI: 10.1177/1357633X16679049  
[jtt.sagepub.com](http://jtt.sagepub.com)  


### SPECIAL TOPICS SERIES

## “There’s a Pain App for That” *Review of Patient-targeted Smartphone Applications for Pain Management*

Chitra Laloo, BHSc, PhD,\*† Lindsay A. Jibb, BSc, MSc, BScN,\*†  
Jordan Rivera, BSc,\* Arnav Agarwal, BHSc,‡  
and Jennifer N. Stinson, RN, PhD, CPNP\*†§||



JA TENIM  
LITERATURA AL  
RESPECTE

A Pilot Comparison of a Smartphone App With or Without  
2-Way Messaging Among Chronic Pain Patients  
*Who Benefits From a Pain App?*

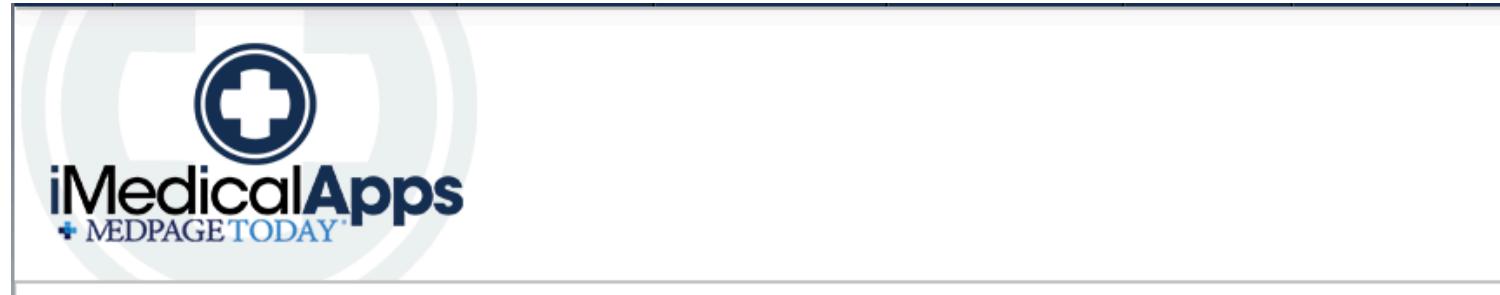
*Robert N. Jamison, PhD,\*† Dylan C. Jurcik, BA,\*  
Robert R. Edwards, PhD,\*† Chuan-Chin Huang, PhD,\* and  
Edgar L. Ross, MD\**

J Opioid Manag. 2014 Jan-Feb;10(1):63-8. doi: 10.5055/jom.2014.0193.

**A systematic review of smartphone applications for chronic pain available for download in the United States.**

Wallace LS<sup>1</sup>, Dhingra LK<sup>2</sup>.

JA TENIM  
LITERATURA AL  
RESPECTE



The screenshot shows the iMedicalApps website. At the top is the logo, which includes a blue circular icon with a white cross inside, followed by the text "iMedicalApps" in a bold, sans-serif font, with "MEDPAGE TODAY" in smaller letters below it. Below the logo is a horizontal line. The main title of the article is "How to manage chronic pain with a medical app". Underneath the title is the author's name, "David Tseng MD", and the date, "January 9, 2017". To the right of the date is a small cursor icon. Below the article title is another screenshot of a different website, IEEE Xplore Digital Library. This screenshot shows the search bar with "All" selected and a placeholder text "Enter keywords or short phrases (searches metadata only by default)". Above the search bar are navigation links: "Browse", "My Settings", "Get Help", and "Subscribe". To the right of the search bar is a link "Institutional Sign In". At the bottom of this screenshot, there is a link "Advance". At the very bottom of the page, there is a footer navigation bar with links: "Browse Journals & Magazines", "IEEE Pulse", "Volume: 7 Issue: 1", and a question mark icon.

How to manage chronic pain with a medical app

David Tseng MD | January 9, 2017

IEEE Xplore®  
Digital Library

Institutional Sign In

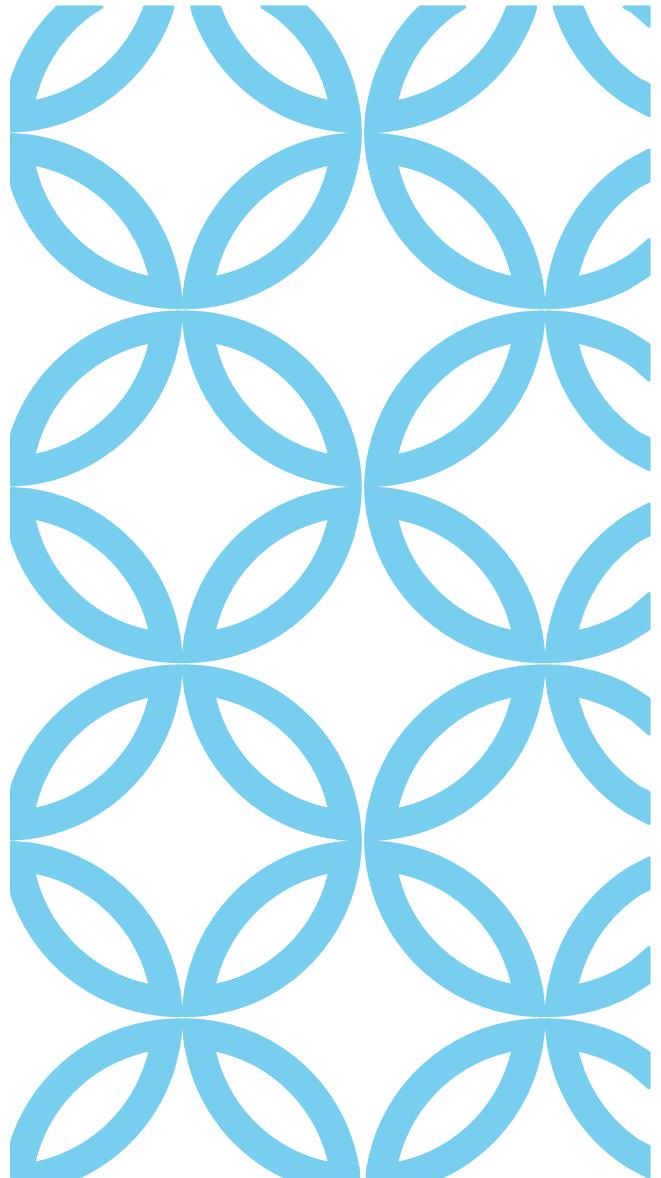
Browse My Settings Get Help Subscribe

All Enter keywords or short phrases (searches metadata only by default)

Advance

Browse Journals & Magazines > IEEE Pulse > Volume: 7 Issue: 1 ?

**Convergence Revolution Comes to Wearables: Multiple Advances are Taking Biosensor Networks to the Next Level in Health Care**



RELIEF

Supply Management Excellence

BravoSolution

Servicio Andaluz de Salud  
CONSEJERÍA DE SALUD

resah

Réseau des Acheteurs Hospitaliers

AKADEMISKA  
SJUKHUSET

UPPSALA UNIVERSITY HOSPITAL

SPH conseil (SPH)

Open University of Catalonia (UOC)

PROJECTE RELIEF  
EU 2020

The image shows a screenshot of the RELIEF project website. The header features the word "RELIEF" in a large, stylized font. Below it is a navigation bar with links: HOME, PROJECT OVERVIEW, CONSORTIUM (which is highlighted in blue), MARKET CONSULTATION, TENDER, INTERNAL, MEDIA, and CONTACT US. The main content area displays logos for six partners: BravoSolution (Supply Management Excellence), Servicio Andaluz de Salud (Consejería de Salud), resah (Réseau des Acheteurs Hospitaliers), AKADEMISKA SJUKHUSET (Uppsala University Hospital), SPH conseil (SPH), and Open University of Catalonia (UOC). Below each logo, the name of the partner is repeated. The background of the entire slide is a solid blue color.

# HTTP://RELIEF-CHRONICPAIN.EU/INDEX.HTML

The screenshot shows the official website for the RELIEF project. At the top left is the project logo, which features a stylized figure in blue and teal. To its right is the European Union flag. The navigation bar includes links for HOME, PROJECT OVERVIEW, CONSORTIUM, MARKET CONSULTATION, TENDER (which is highlighted in blue), INTERNAL, MEDIA, and CONTACT US. Below the navigation bar, a large grey header section contains the text "RELIEF Results". The main content area begins with a paragraph announcing the awarding of contractors for Phase 2 of the PCP Tender, followed by a list of awarded contractors and a link to Phase 2 Project Abstracts.

**RELIEF Results**

The RELIEF Buyer's Group is pleased to announce the awarding of the contractors for the Phase 2 of the RELIEF PCP Tender.

The 4 awarded contractors that will implement Phase 2 – Prototype Development are:

- ▶ Tech4care srl.
- ▶ ARTICA TELEMEDICINA S.L.
- ▶ GNOMON INFORMATICS
- ▶ Linkcare Health Services

[Phase 2 Project Abstracts](#)

MEET THE AWARDED CONTRACTORS FOR PHASE 1  
(Members of the consortium and subcontractors)

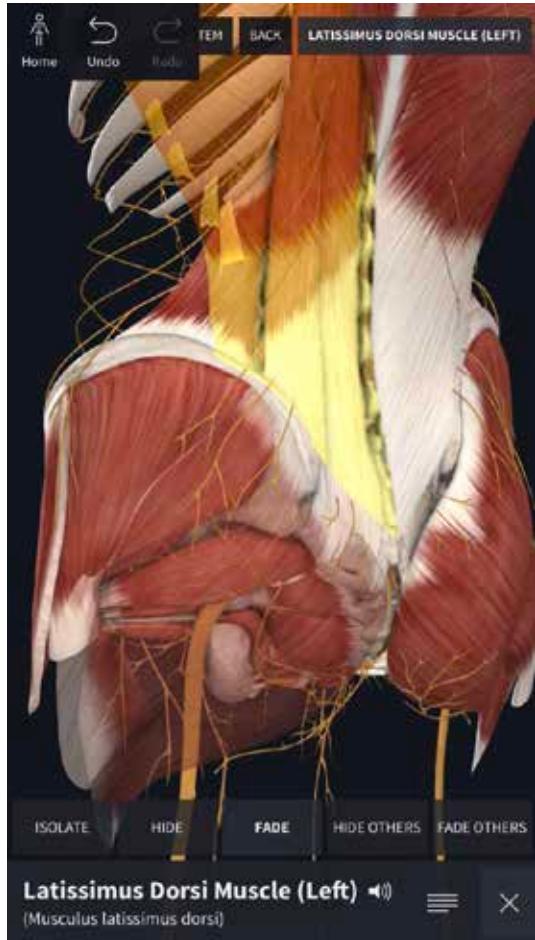
# I QUINES APPS ESTIC FENT SERVIR A LA PRÀCTICA DIÀRIA?

THE DOCTOR  
IS **IN**

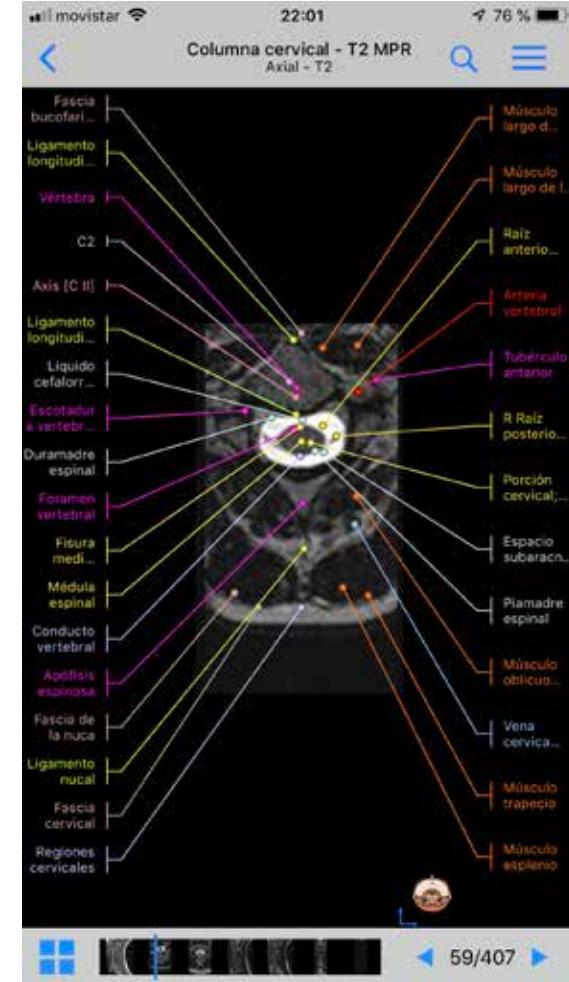
[Esta foto](#) de Autor desconocido está bajo licencia [CC BY-SA](#)

# ANATOMIA 3D I SECCIONAL

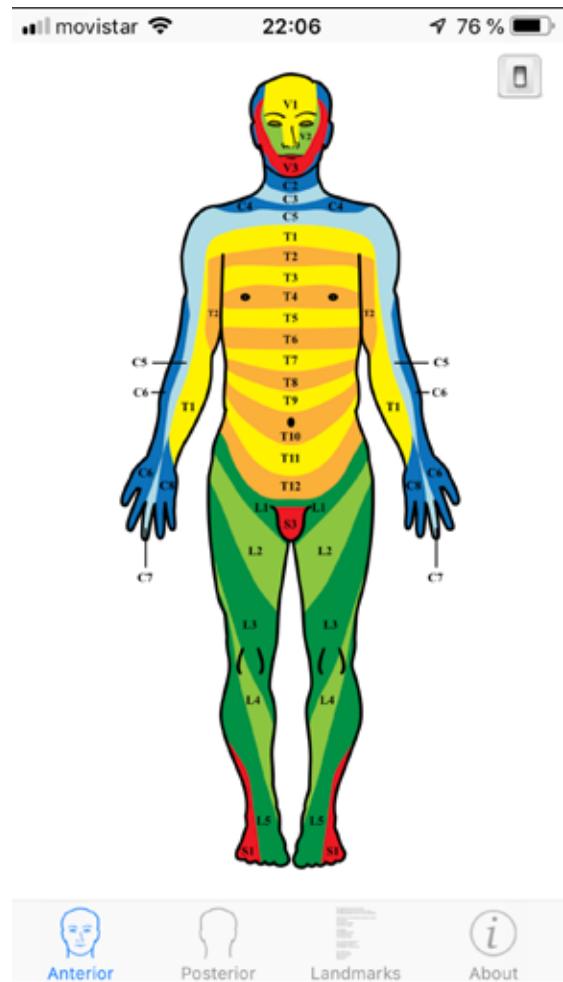
COMPLETE  
ANATOMY



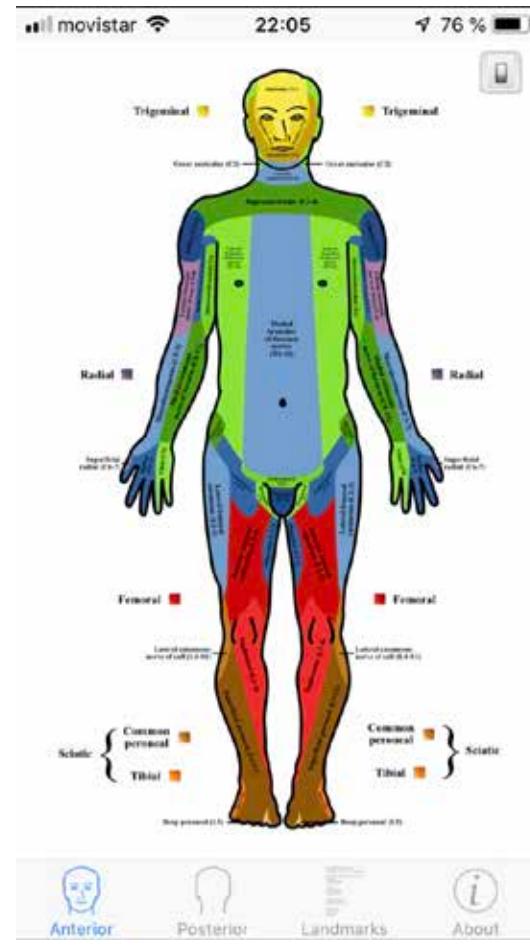
E-ANATOMY



# DIAGNÒSTIC NEUROLÒGIC



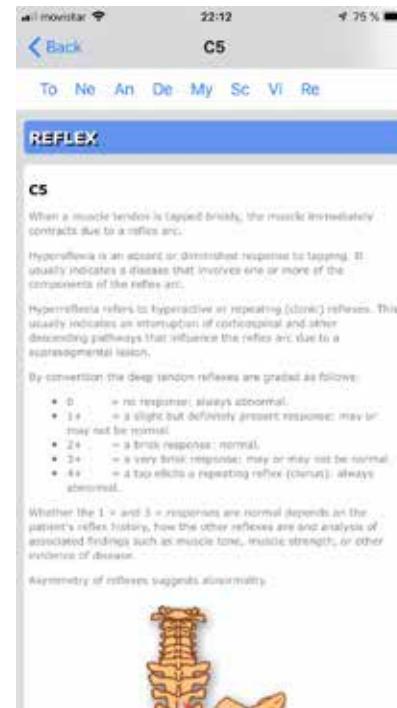
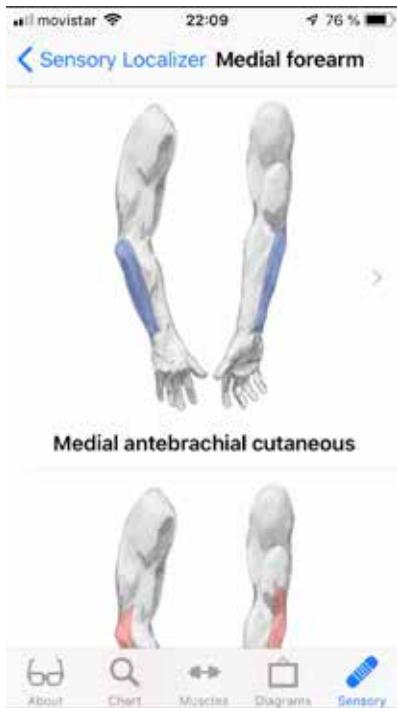
# DERMATOMES



# DIAGNÒSTIC NEUROLÒGIC

NEURO WIZ

I NEURO



# DIAGNÒSTIC NEUROLÒGIC

## EMG PARTNER

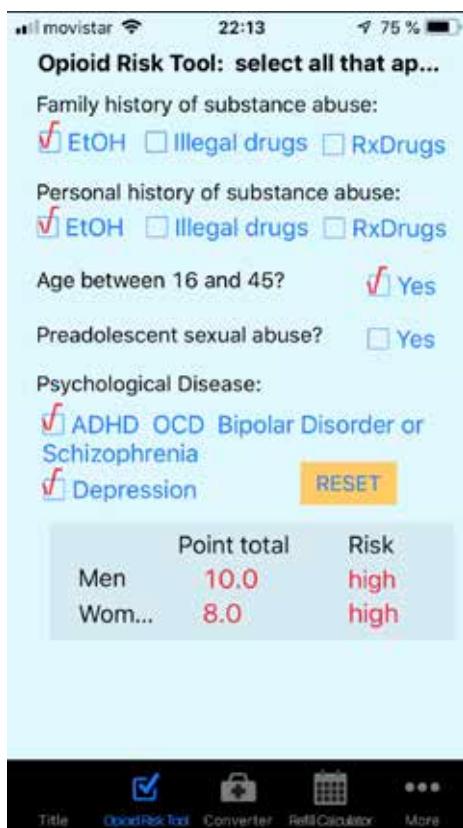


## NEURO LOCALIZER



# OPIOIDES

## OPIOID RISK TOOL



## CONVERTIDORES DE DOSIS – APP DOLOR



# TRIGGER POINTS



# FÀRMACS I ELS SEUS EFECTES SECUNDARIS

FÁRMACOS Y  
CONDUCCIÓN



INTERACCIONES



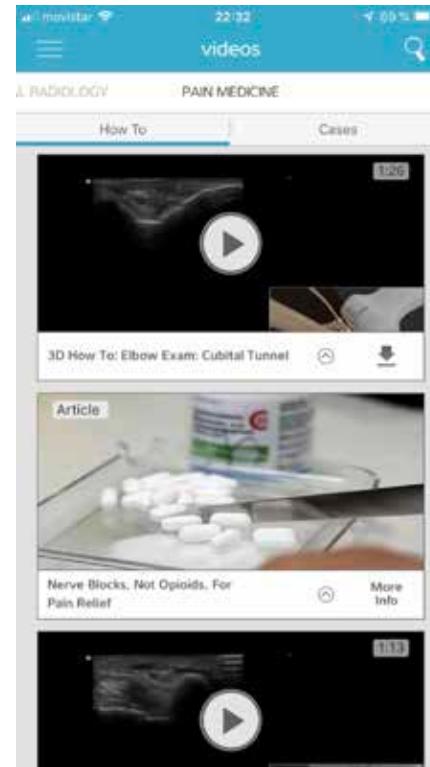
MEDIMECUM

# AJUDA A TÈCNIQUES INTERVENCIONISTES

## ASRA COAG



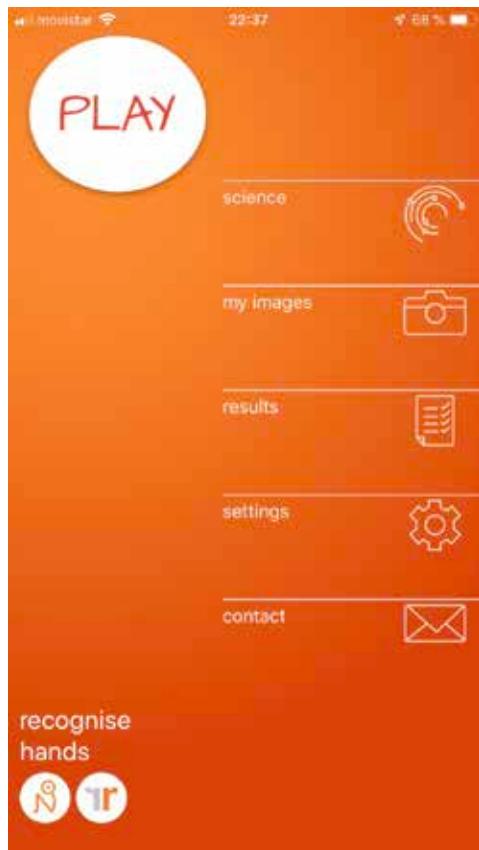
## SONOACCESS



## ECHO-LOCO



# GRADED MOTOR IMAGINERY - RECOGNISE



PER FINALITZAR . . .

ED economía Digital

# microsiervos



[PORTADA](#)   [BUSCAR](#)   [CONTACTAR](#)   [HUMOR](#)   [¡SALTA!](#)   [TIENDA](#)

NOTICIAS

**De cómo los datos de la app de Salud  
de un iPhone sirvieron para resolver  
un crimen en Alemania**

