

Internet and virtual reality: how can we use it in acute Heart Failure

Prof dr Tiny Jaarsma



First Israeli Summit on Acute Heart Failure

Israel Heart Society Working Groups of Heart Failure and Intensive Care Heart Failure Association
European Society of Cardiology

March 20th 2014

Avenue Convention Center, Ben-Gurion Airport City

09.00-10.30 Session 1 **Acute Heart Failure: Scope of the problem and Initial Management** Chairpersons: J.M. Weinstein (Beer-Sheva, Israel), S. Matetzky (Tel Hashomer, Israel)

09.00 **Welcome to the Acute Heart Failure Meeting 2014**

Prof. Y. Rozenman, President of Israel Heart Society; Prof. P. Ponikowski, Heart Failure Association, ESC

09:10 **Acute Heart Failure- The Scope of the Problem**

Prof. A. Shotan, Haderah

09:30 **Initial approach to the patient with Acute Heart Failure in the ICCU.**

Prof. D. Delgado, Toronto, Canada

09:50 **Pivotal Role of Renal function in Acute Heart Failure**

Prof. D. Aronson, Haifa

10:10 **Intravenous Inotropic Support - an overview.**

Dr. S. Atar, Nahariya

10:30-11:00 **Coffee break**

11.00-12:30 Session 2 **Acute Heart Failure: Non-surgical interventions** Chairpersons: I. Gotsman (Jerusalem, Israel), Z. Iakobishvili (Petach Tikva, Israel)

11:00 **Update on the role of the IABP in Acute Heart Failure**

Prof. D. Hasdai, Petach Tikva

11:20 **The revival of Levosimendan in Acute Heart Failure?**

Prof. J.T. Parisis, Athens, Greece

11:40 **The new boy in town: Serelexin Therapy in Acute Heart Failure**

Prof. P. Ponikowski, Warsaw, Poland

12:00 **The Scourge of Pulmonary Hypertension in Acute Heart Failure**

Dr T. Ben-Gal, Petach Tikva

12:20 **Discussion**

12:30-13:30 **Lunch break**



13.30-14:40 Session 3 **Acute Heart Failure: Invasive interventions** Chairpersons: O. Amir (Tveria, Israel), J. Lavee (Tel Hashomer, Israel)

13:30 **Continuing Invasive Support – LV Assist Devices**

Dr. B. Medalion, Petach Tikva

13:50 **New and Emerging Technologies in Cardiac Assist Devices**

Dr. Y. Kassif, Tel Hashomer

14:10 **MitraClip in the Management of Heart Failure**

Prof. P. Ponikowski, Warsaw, Poland

14:30 **Discussion**

14:40-15:00 **Coffee break**

15.00-16:00 Session 4 **Acute Heart Failure: Monitoring options** Chairpersons: A. Shotan (Haderah, Israel), Prof. P. Ponikowski (Warsaw, Poland)

15:00 **Internet and virtual reality: how can we use it in acute HF?**

Prof. T. Jaarsma, Linköping, Sweden

15:20 **Monitor Devices in Prevention of Acute Heart Failure**

Prof. A. Keren, Jerusalem

15:40 **Panel Discussion**



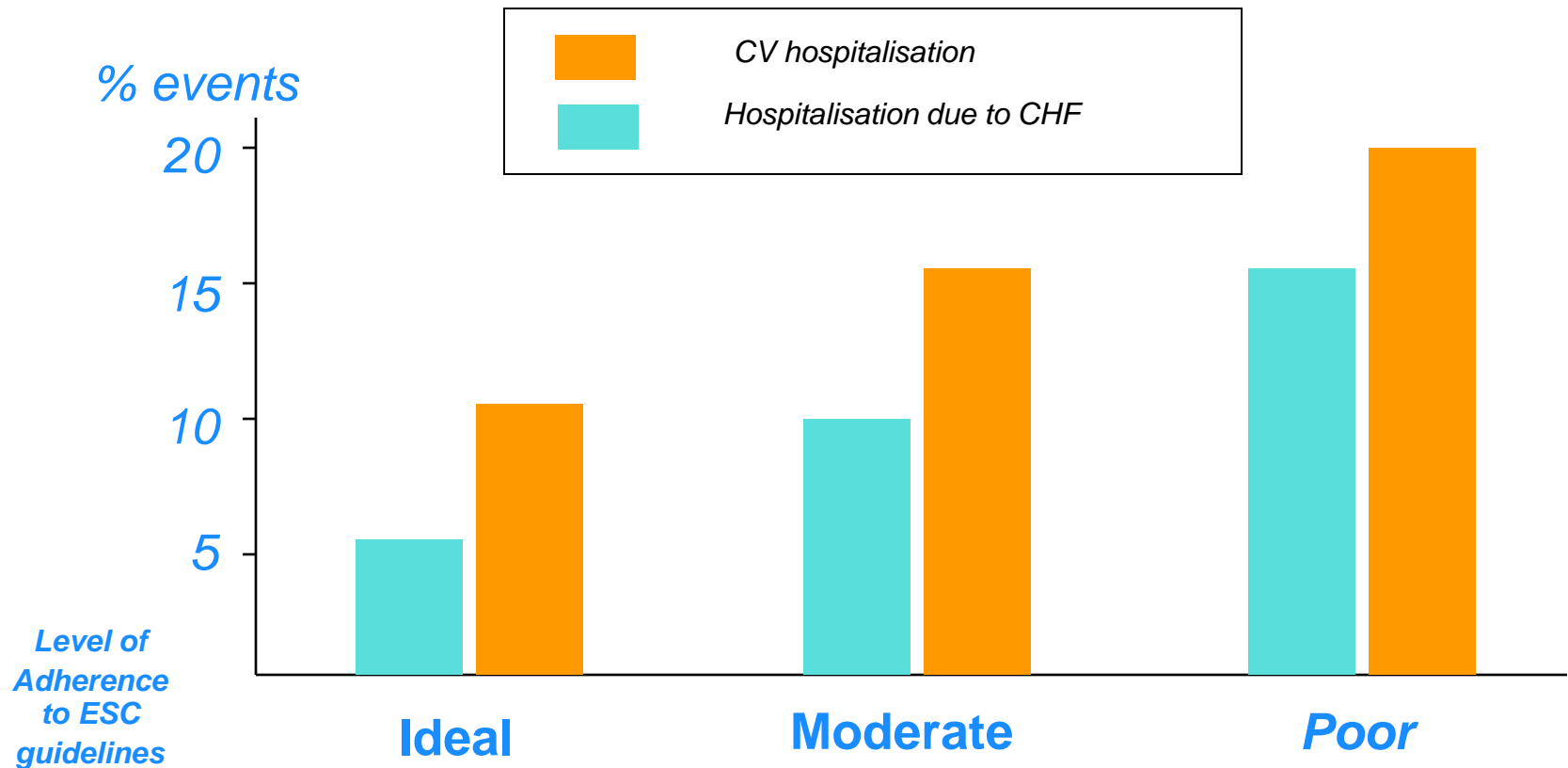
Reasons for readmission in Heart Failure

- Non-compliance 15-64%
- Ischemia 6-33%
- Inadequate medical treatment 10-25%
- Arrhythmia 6-29%
- Uncontrolled hypertension 2-44%
- Infection (pulmonary) 11-23%
- Unknown 9-34%

The best drug cannot work when it is not prescribed

Chronic heart failure

1410 CHF patients; 6 European countries; 150 cardiologists



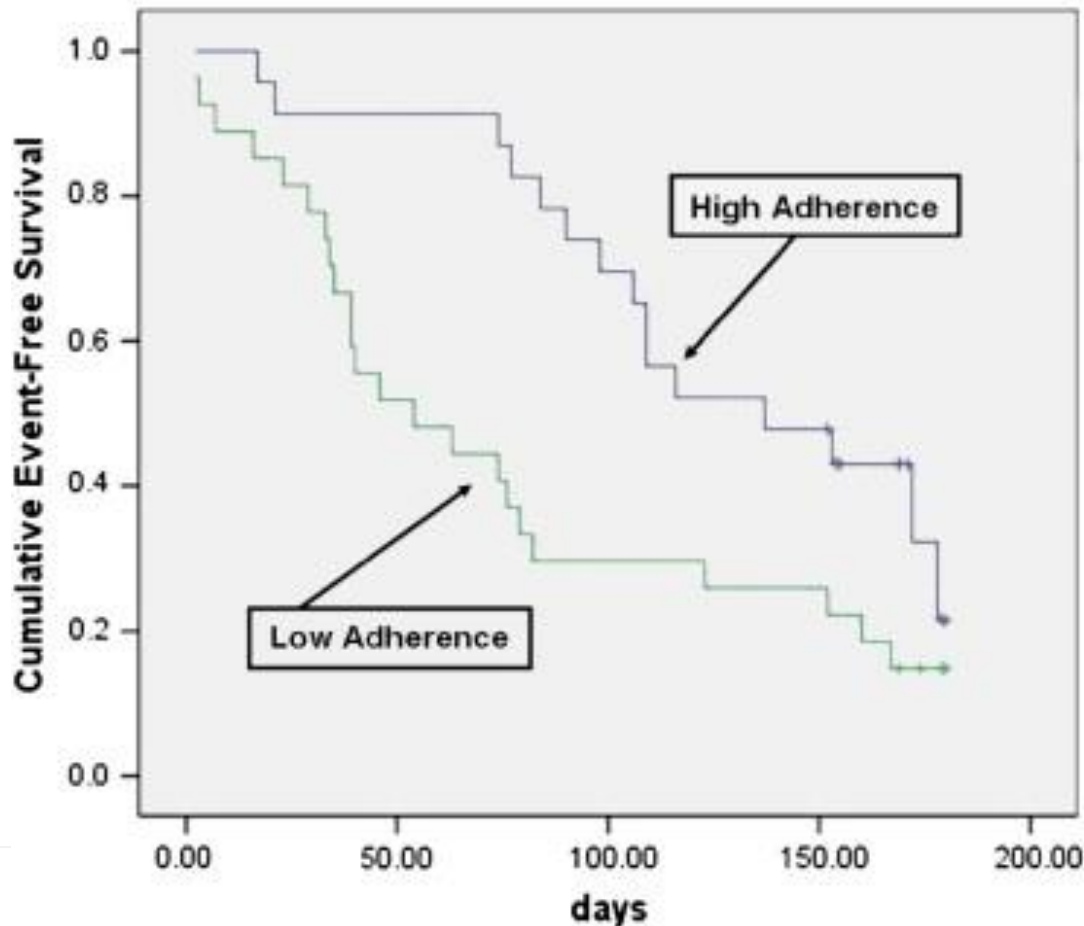
Guideline adherence

- Overall physician adherence to ESC treatment guidelines was 63%
- Adherence to treatment guidelines was independently and strongly correlated to outcome measured by rate of CHF or CV hospitalization and time to CV hospitalization.

The best drug cannot work when it is not taken

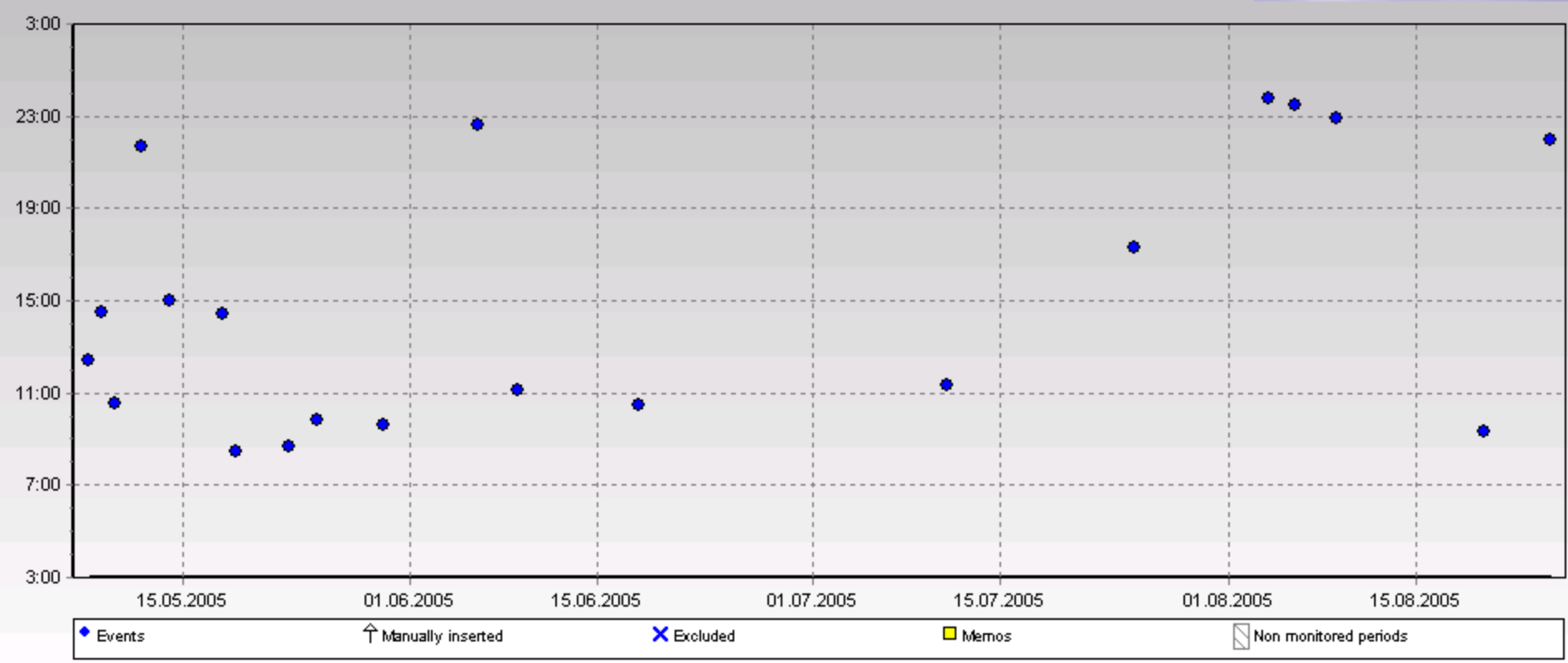
Medication adherence and time to first event of ED visits, rehospitalization, or mortality

Kaplan-Meier Curves for Dose-Count



Age: 25 **Sex:** man **Monitor:** 218794 ...
Drug: ramipril 5 mg **Dose:** Twice a day **Investigator:** _____
Results: From 8-5-2005 6:00 to 25-8-2005 23:00 (1) Number of monitored days: 110
 Number of doses taken: 20 Interval (hrs) Longest: 552.8 Shortest: 18.0
 % Doses taken: 9.1% % Days correct nbr of doses taken: 0.0% % Prescribed doses taken on schedule: 0.0%

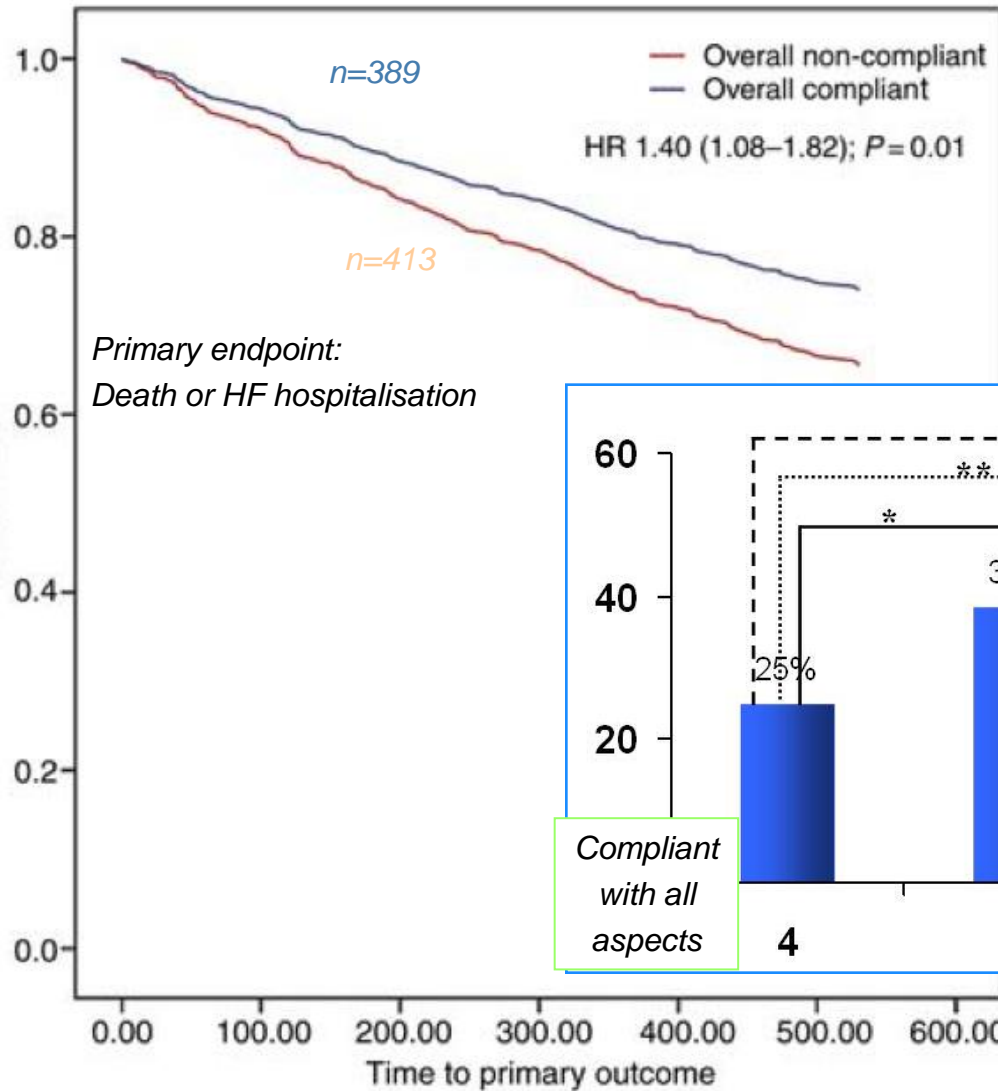
[Calendar plot](#) [Chronology](#) [Patient data](#) [Days distrib.](#) [Intervals distrib.](#) [Timing distrib.](#) [Drug holidays](#) [Therapeutic coverage](#)



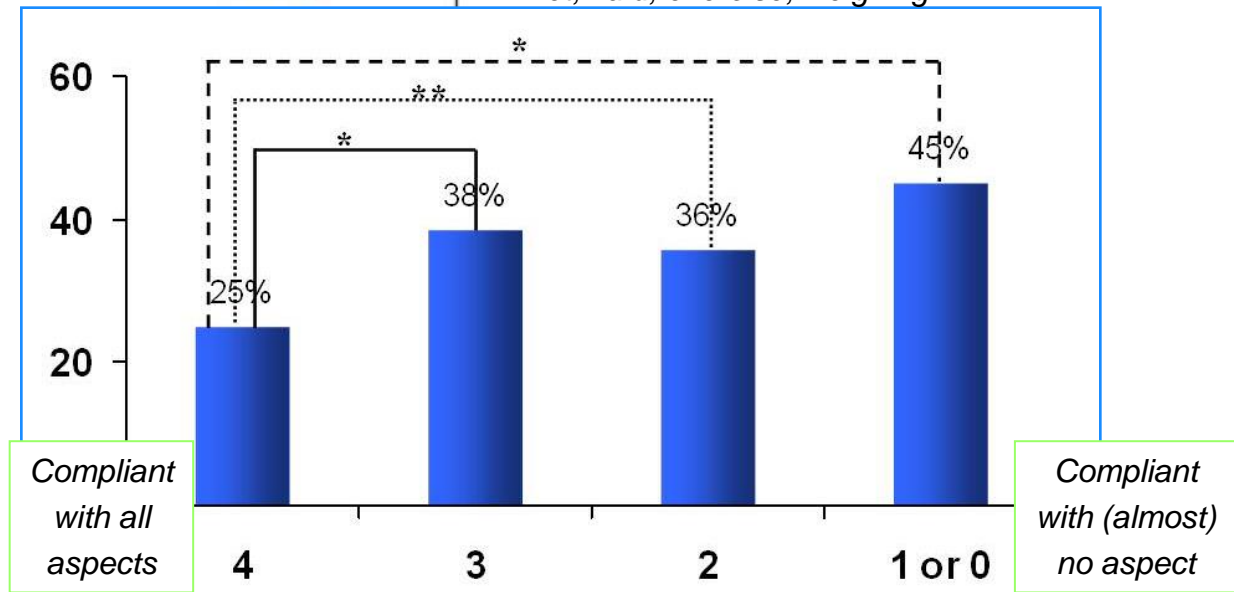
With doses taken With missing doses With inserted events With non monitored periods
 With memo With no dose days With excluded events All events on one page

Patient adherence & outcomes in HF

van der Wal, EHJ 2010



Aspects:
Diet, fluid, exercise, weighing



Keys to success

- **Providers prescribe (correctly)**
- **Patients adhere/comply/take (correctly)**

Keys to success

- Providers prescribe (correctly)
 - Guidelines adherence
 - Adequate up to date knowlegde
 - Skills
 - Tools

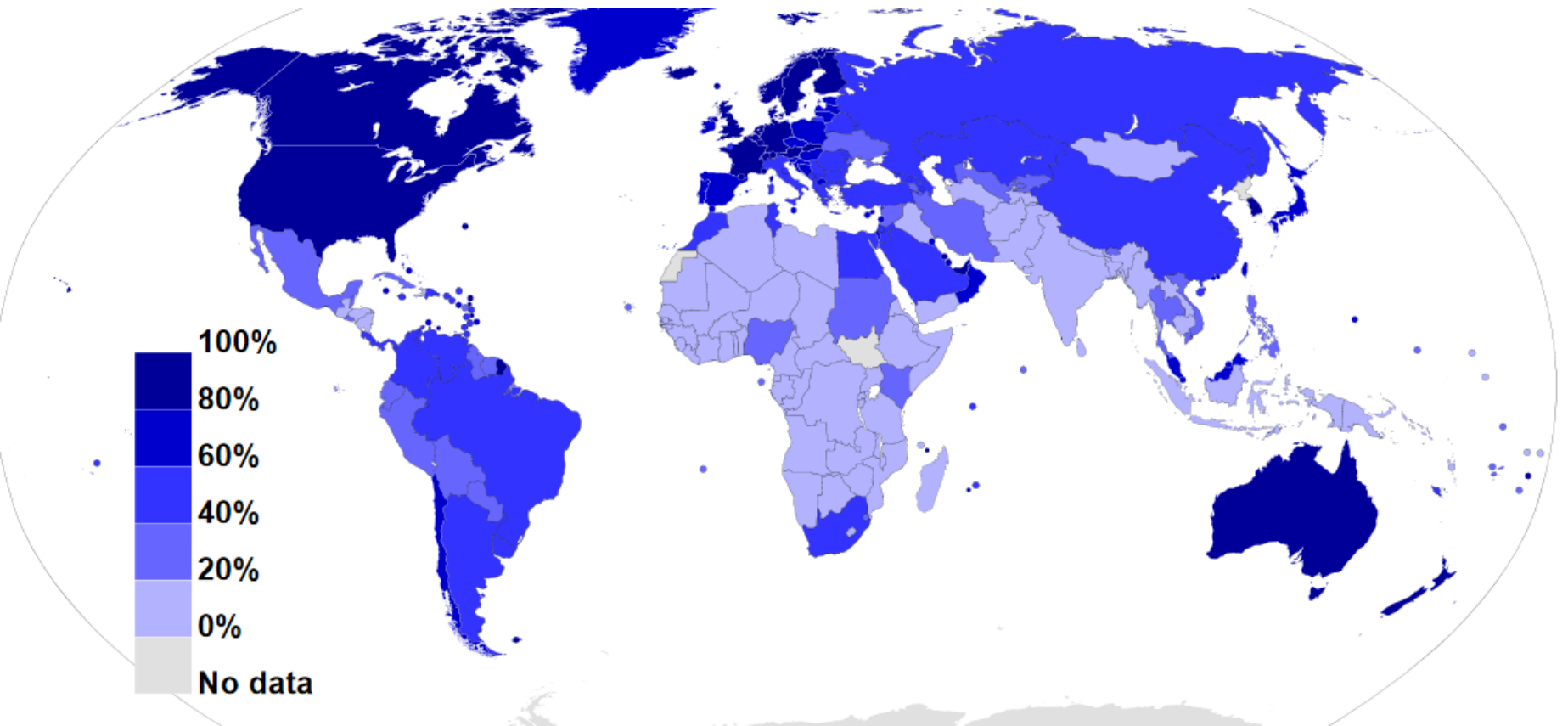
Internet and virtual reality







- Patients adhere/comply/take (correctly)
 - Treatment adherence
 - Knowlegde, skills
 - Tools
















Goal of the presentation

- Inspire
- Open your mind
- Take away hurdles
- Bring new hurdles

Internet use in the world



Country or area	Internet users ^[2]	Rank	Penetration ^[3]	Rank
 Israel	5,568,961	54	73.4%	42
 Barbados	210,994	153	73.3%	43
 <i>Hong Kong</i>	5,207,762	57	72.8%	44
 Spain	33,870,948	19	72.0%	45
 Hungary	7,170,086	47	72.0%	45
 The Bahamas	226,855	152	71.7%	47
 Slovenia	1,397,632	106	70.0%	48
 Malta	286,885	142	70.0%	48
 Lithuania	2,397,517	85	68.0%	50
 Malaysia	19,200,408	26	65.8%	51
 Bosnia and Herzegovina	2,535,356	83	65.4%	52
 <i>Gibraltar</i>	18,877	200	65.0%	53
 Poland	24,969,935	21	65.0%	54
 <i>Greenland</i>	37,442	193	64.9%	55

Country or area 	Internet users ^[2] 	Rank 	Penetration ^[3] 	Rank 
 <i>Falkland Islands</i> ^[6]	2,842	208	96.9%	1
 Iceland	300,656	139	96.0%	2
 Norway	4,471,907	65	95.0%	3
 Sweden	8,557,561	44	94.0%	4
 Netherlands	15,559,488	32	93.0%	5
 Denmark	5,155,411	58	93.0%	5
 Luxembourg	468,348	132	92.0%	7
 <i>Bermuda</i>	63,070	178	91.3%	8
 Finland	4,789,266	61	91.0%	9
 New Zealand	3,873,982	73	89.5%	10

Virtual reality

- Virtual reality: computer-simulated environments that can simulate physical presence in places in the real world, as well as in imaginary worlds
- Serious games: games serving serious purposes like education, training, advertising, research and health.





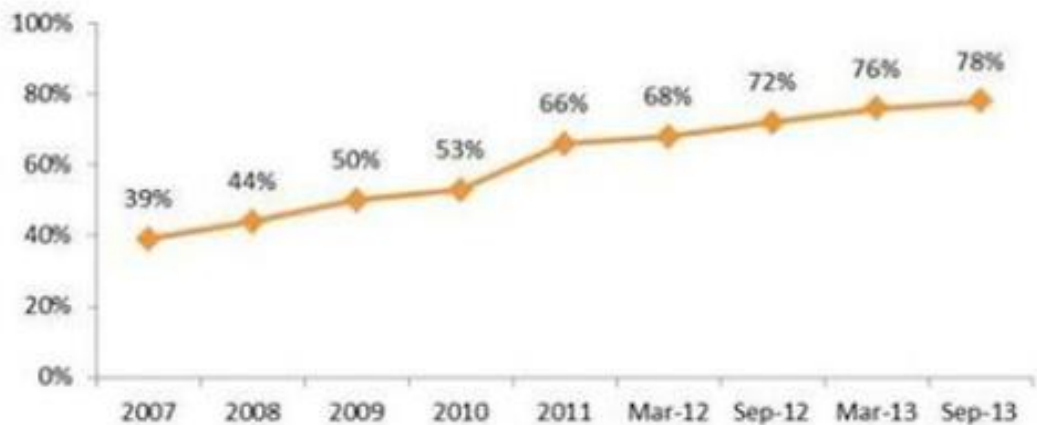
Internet and VR in (acute) HF care

- Professionals
 - Knowledge transfer
 - Skill building
 - Stay up-to-date

Internet and VR in (acute) HF care

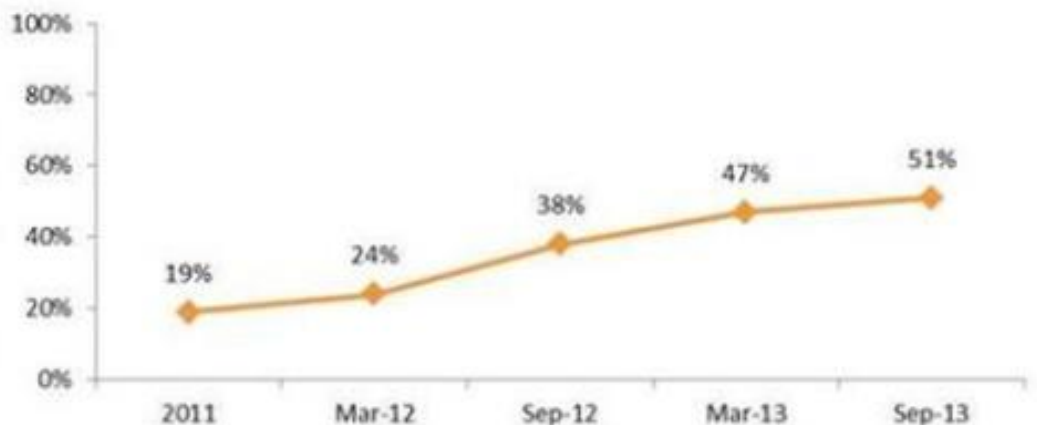
- Professionals
 - Knowledge transfer
 - Internet/interactive learning
 - Skill building
 - Learn and practice
 - Simulation
 - Stay up-to-date
 - Guidelines
 - Publications

Physician Usage of Smartphones for Professional Purposes Over Time



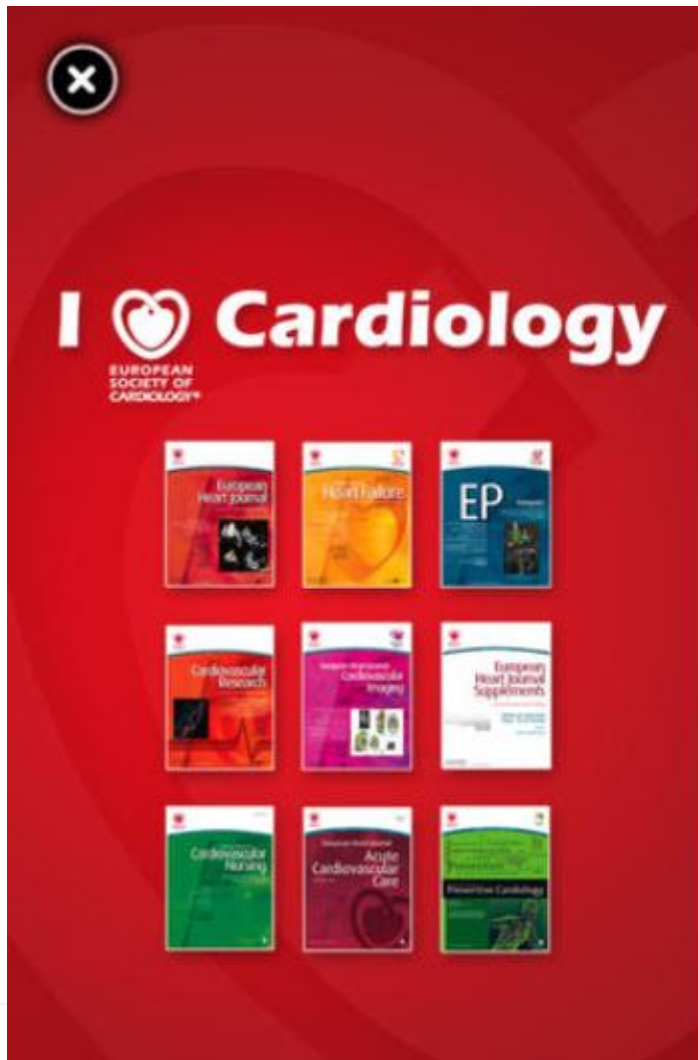
Kantar Media Sources & Interactions Study, September 2013 - Medical/Surgical Edition

Physician Usage of Tablets for Professional Purposes Over Time



Kantar Media Sources & Interactions Study, September 2013 - Medical/Surgical Edition

Apps to professional journal



Heart Failure Trials App

Heart Failure Trials



iPhone – 5 stars with 77 ratings - \$2.99

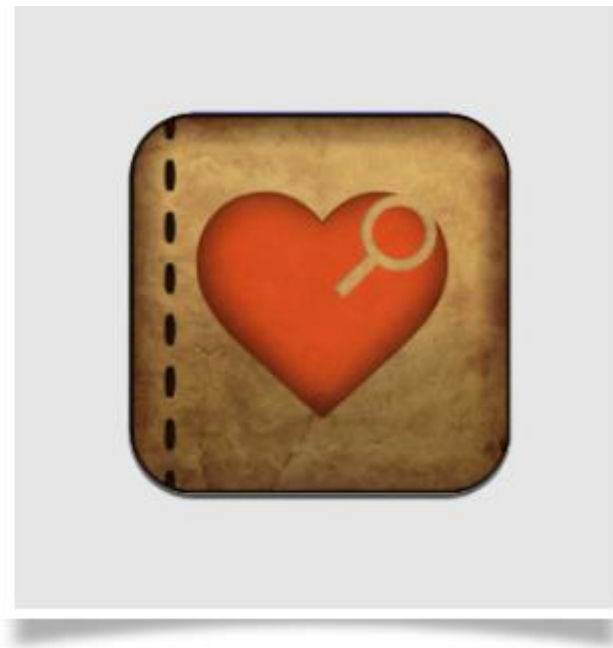
Android – 4.7 stars with 58 ratings - \$2.99



If you have heart disease or are caring for someone who does, there's no better time than today to educate yourself on clinical trials around heart failure.



The five-star Heart Failure Trials app keeps you up to date with the latest in heart failure research and evidenced-based medicine. Developed by renowned heart failure cardiologist David Majure, MD MPH, the database is constantly updated with the latest trials and expert opinions. Topics reviewed include beta-blockers, antiarrhythmics



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Heart Failure

 Print

Author: Ioana Dumitru, MD; Chief Editor: Henry H Ooi, MB, MRCPI [more...](#)

Overview Presentation DDX Workup Treatment Medication

Updated: Mar 10, 2014

Practice Essentials

Practice Essentials

Background

Heart failure develops when the heart, via an abnormality of cardiac function (detectable or not), fails to pump blood at a rate commensurate with the requirements of the metabolizing tissues or is able to do so only with an elevated diastolic filling pressure.

Pathophysiology

Essential update: Smoking linked to increased risk of ventricular tachyarrhythmia or death in patients with mild heart failure

Etiology

LIU EXPANDING REALITY

EDUCATIONAL ADVANCE

Procedures Can Be Learned on the Web: A Randomized Study of Ultrasound-guided Vascular Access Training

Jordan Chenkin, MD, Shirley Lee, MD, MHSc, FCFP, Thien Huynh, Glen Bandiera, MD, MEd, FRCPC

Abstract

Objectives: Web-based learning has several potential advantages over lectures, such as anytime-anywhere access, rich multimedia, and nonlinear navigation. While known to be an effective method for learning facts, few studies have examined the effectiveness of Web-based formats for learning procedural skills. The authors sought to determine whether a Web-based tutorial is at least as effective as a didactic lecture for learning ultrasound-guided vascular access (UGVA).

Methods: Participating staff emergency physicians (EPs) and junior emergency medicine (EM) residents with no UGVA experience completed a precourse test and were randomized to either a Web-based or a didactic group. The Web-based group was instructed to use an online tutorial and the didactic group attended a lecture. Participants then practiced on simulators and live models without any further instruction. Following a rest period, participants completed a four-station objective structured clinical examination (OSCE), a written examination, and a postcourse questionnaire. Examination results were compared using a noninferiority data analysis with a 10% margin of difference.

Table 2
Results of the OSCE and Written Examinations

	Web group (n = 11)	Didactic Group (n = 10)	Absolute Difference	p-Value
OSCE score	75.0 (\pm 9.3)	77.8 (\pm 3.6)	-2.8 (-9.3, 3.8)	0.39
Written examination	78.8 (\pm 7.3)	80.3 (\pm 6.6)	-1.4 (-7.8, 5.0)	0.65
Written score improvement	26.1 (\pm 13.1)	25.8 (\pm 8.5)	0.3 (-9.7, 9.2)	0.95

Data are reported as % (\pm SD) or % (95% CI).

CI = confidence interval; OSCE = objective structured clinical examination; SD = standard deviation.

Learning by health care providers

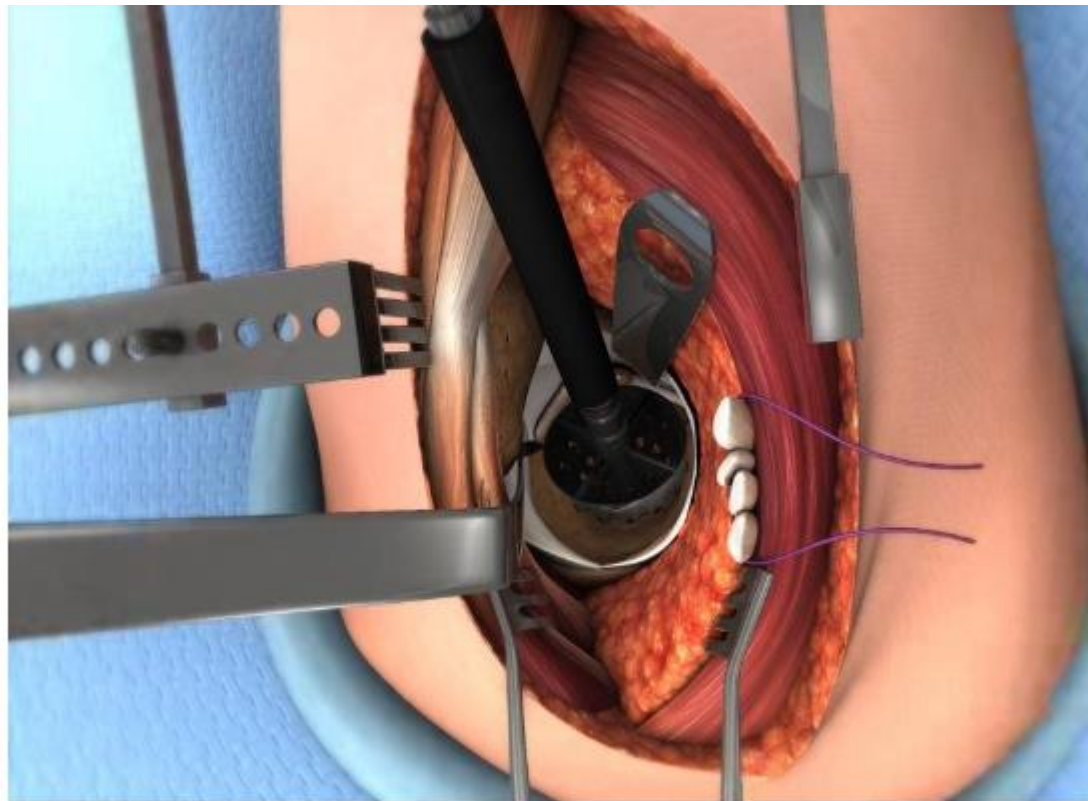
Examples

- Resuscitation
- Triage
- Procedures





Skills: touch surgery App



Touch Surgery



Clinical Investigations

A Quality Assessment of Cardiac Auscultation Material on YouTube

Christian F. Camm, BA (Hons.); Nicholas Sunderland, BA (Hons.); A. John Camm, MD
New College (C.F. Camm), St. Hugh's College (Sunderland), Oxford University, Oxford, United Kingdom; Department of Clinical Sciences, St. George's University of London (A.J. Camm), London, United Kingdom

- Given the lack of regulation of such videos, it is likely that a proportion of online resources are still of poor quality with substantial educational flaws.
- Utilization for education, continued assessment of content is required.

HF doctor blog

Weblog « Dr. Silva's Blog - Windows Internet Explorer

http://silvafamilychiropractic.com/blog/?tag=weblog

File Edit View Favorites Tools Help

Google weblog heart failure doctor Search More >>

Favorite Untitled Message Gmail - Inkorgen (15) - p.ja... Lexin Swedish-English dictio... New Tab (2) Microsoft Outlook Web Ace... Microsoft Outlook Web Ace... Microsoft Outlook Web Ace...

Weblog « Dr. Silva's Blog

Dr. Silva's Blog

Your Source to the Inner-Workings of Dr. Silva's Mind

Posts Tagged 'Weblog'

[« Older Entries](#)

TIME Magazine - "It's All About Prevention"

Monday, March 15th, 2010

In the 06/22/09 edition of TIME Magazine, Richard Stengel (Managing Editor of TIME Magazine) starts the issue out with the statement:

"Prevention is the new watchword, and our annual health issue looks at how to avoid illness rather than just treat it."

"It costs a lot more to fix something that's broken than it does to prevent it from breaking down in the first place."

"When it comes to individual health care, the model these days is not treating illness but preventing it. The prescription is prevention."

In another article in the same issue, Cleveland Clinic CEO Dr. Delos

Calendar

May 2011

M	T	W	T	F	S	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

[« Mar](#)

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start Windows Task... HFA Gothenburg Search Results Odense_Brussel HFA Gothenburg Microsoft Pow... Twitter is a mi... Weblog « Dr. ... SV 21:37

From: *Online Medical Professionalism: Patient and Public Relationships: Policy Statement From the American College of Physicians and the Federation of State Medical Boards*

Ann Intern Med. 2013;158(8):620-627. doi:10.7326/0003-4819-158-8-201304160-00100

Table. Online Physician Activities: Benefits, Pitfalls, and Recommended Safeguards

Activity	Potential Benefits	Potential Pitfalls	Recommended Safeguards
Communications with patients using e-mail, text, and instant messaging	Greater accessibility Immediate answers to nonurgent issues	Confidentiality concerns Replacement of face-to-face or telephone interaction Ambiguity or misinterpretation of digital interactions	Establish guidelines for types of issues appropriate for digital communication Reserve digital communication only for patients who maintain face-to-face follow-up
Use of social media sites to gather information about patients	Observe and counsel patients on risk-taking or health-averse behaviors Intervene in an emergency	Sensitivity to source of information Threaten trust in patient-physician relationship	Consider intent of search and application of findings Consider implications for ongoing care
Use of online educational resources and related information with patients	Encourage patient empowerment through self-education Supplement resource-poor environments	Non-peer-reviewed materials may provide inaccurate information Scam "patient" sites that misrepresent therapies and outcomes	Vet information to ensure accuracy of content Refer patients only to reputable sites and sources
Physician-produced blogs, microblogs, and physician posting of comments by others	Advocacy and public health enhancement Introduction of physician "voice" into such conversations	Negative online content, such as "venting" or ranting, that disparages patients and colleagues	"Pause before posting" Consider the content and the message it sends about a physician as an individual and the profession
Physician posting of physician personal information on public social media sites	Networking and communications	Blurring of professional and personal boundaries Impact on representation of the individual and the profession	Maintain separate personas, personal and professional, for online social behavior Scrutinize material available for public consumption
Physician use of digital venues (e.g., text and Web) for communicating with colleagues about patient care	Ease of communication with colleagues	Confidentiality concerns Unsecured networks and accessibility of protected health information	Implement health information technology solutions for secure messaging and information sharing Follow institutional practice and policy for remote and mobile access of protected health information

Some safeguards

Email

- Establish guidelines
- Digital communication for patients who have face to face contact only
- How to chart

Internet sites

- Make a list of recommended site

Blogs

- Pause before posting

Social media

- Maintain separate personas

Key to success

- Providers prescribe (correctly)
 - Guidelines adherence
 - Adequate up to date Knowledge
 - Skills
 - Tools
- Patients adhere/comply/take (correctly)
 - Treatment adherence
 - Knowledge, skills
 - Tools

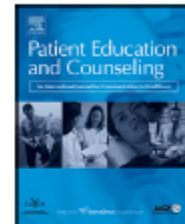


ELSEVIER

Contents lists available at SciVerse ScienceDirect

Patient Education and Counseling

journal homepage: www.elsevier.com/locate/pateducou



Self Management

Comparison of self-care behaviors of heart failure patients in 15 countries worldwide

Tiny Jaarsma^{a,*}, Anna Strömberg^{b,c}, Tuvia Ben Gal^d, Jan Cameron^e, Andrea Driscoll^f, Hans-Dirk Duengen^g, Simone Inkrot^g, Tsuey-Yuan Huang^q, Nguyen Ngoc Huyen^m, Naoko Kato^h, Stefan Köberich^{i,j}, Josep Lupón^k, Debra K. Moser^l, Giovanni Pulignanoⁿ, Eneida Rejane Rabelo^o, Jom Suwanno^p, David R. Thompson^e, Ercole Vellone^r, Rosaria Alvaro^r, Doris Yu^s, Barbara Riegel^t

סולם הענות הטיפול העצמי בחולי אי ספיקת לב

על פי האיגוד האירופאי לאי ספיקת לב

לפניך מספר הצהרות המתייחסות להרגשתך ולטיפולך באי ספיקת הלב.

ענה/י על כל הצהרה על ידי סימון המספר המייצג אותך (מתאים לך) ביותר.

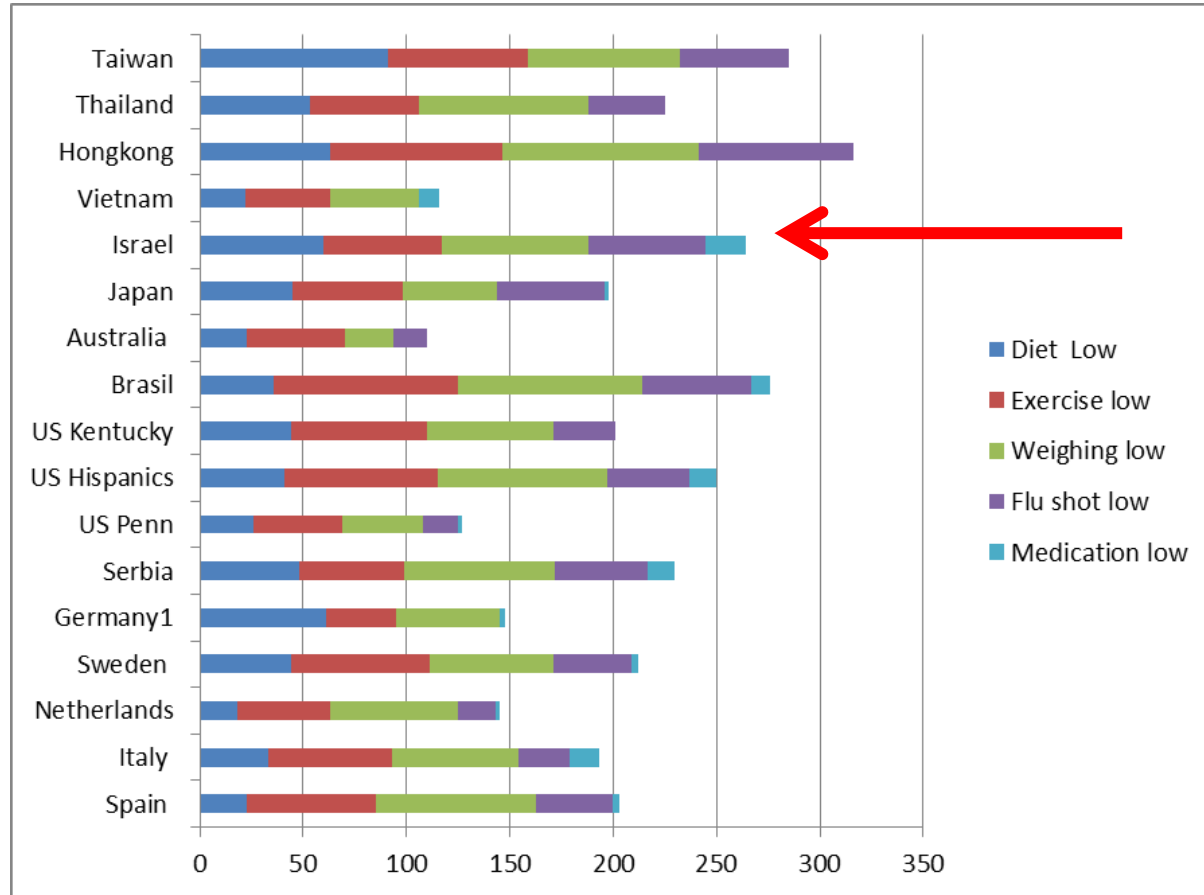
לכל הצהרה יש טווח תשובות בין 1 ל 5 :

1= אני מסכים לחלוטין, 5 = לא מסכים כלל.

גם אם את/ה לא בטוח/ה לגבי הצהרה מסוימת, הקף/י את המספר המתאים ביותר להרגשתך.

מסכים לחלוטין				לא מסכים כלל	
1	2	3	4	5	1. אני שוקל את עצמי כל יום
1	2	3	4	5	2. אם יש לי קוצר נשימה אני נח/ה

Low self care behavior (%)



Internet and virtual reality to improve patient adherence







- Internet patient education sites
- Internet tools for monitoring
- Telemonitoring (internet based)

- Applications to learn about diet, exercise, symptoms
- Facebook
- 'Games'



ANNA, YOUR
VIRTUAL GUIDE

HEART FAILURE
MATTERS:
PRACTICAL
INFORMATION FOR
PATIENTS, FAMILIES AND
CAREGIVERS.

-  Understanding heart failure
-  What can your doctor do
-  What can you do
-  Living with Heart Failure
-  For caregivers
-  Warning signs





ANNA, YOUR VIRTUAL GUIDE

HEART FAILURE MATTERS:

PRACTICAL INFORMATION FOR PATIENTS, FAMILIES AND CAREGIVERS.

-  [Understanding heart failure](#)
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-  [Living with Heart Failure](#)
-  [For caregivers](#)
-  [Warning signs](#)
-  [FAQ](#)
-  [Ask Your Doctor](#)

What can your doctor do

[What can your doctor do?](#)

[Implantable devices](#)

[Other procedures](#)

[People that may be involved in your care](#)

[Getting involved in clinical trials](#)

[Heart failure medicines](#)

[Surgery](#)

[Questions to ask your doctor](#)

[Heart failure clinics and management programmes](#)





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-  [Understanding heart failure](#)
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HEART FAILURE
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ANNA, YOUR
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GUIDE

HEART FAILURE MATTERS: PRACTICAL INFORMATION FOR PATIENTS, FAMILIES AND CAREGIVERS.



Understanding heart failure



What can your doctor do



What can you do



Living with Heart Failure



For caregivers



Warning signs



FAQ



Ask Your Doctor

Warning signs

Warning signs

Shortness of breath

Fainting and/or dizziness

Cough

Swelling or pain in the abdomen

Loss of appetite/nausea

Chest pain

Awakening short of breath
more pillows

Palpitations

Rapid weight gain

Increased swelling of the
ankles





HEART FAILURE MATTERS: PRACTICAL INFORMATION FOR PATIENTS, FAMILIES AND CAREGIVERS.

- Understanding heart failure
- What can your doctor do
- What can you do
- Living with Heart Failure
- For caregivers
- Warning signs
- FAQ
- Ask Your Doctor



AN ANIMATED JOURNEY THROUGH HEART FAILURE

A series of 9 simple, captivating animations explaining heart failure and its treatment

These narrated animations explain how a healthy heart works, what happens to it in heart failure and how various treatments work to improve your health



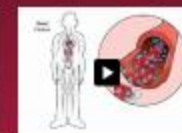
How the normal heart works



What goes wrong in heart failure



How the heart and body adapt in heart failure



How heart failure causes fluid accumulation

USEFUL TOOLS



Практические сведения о сердечной недостаточности для пациентов, их семей и ухаживающего персонала



Основные сведения о сердечной недостаточности

Что может сделать врач?

Что можете сделать Вы?

Жизнь с сердечной недостаточностью

Рекомендации для ухаживающего персонала

Опасные симптомы

Часто задаваемые вопросы



Рассказы пациентов

Истории из жизни, записанные со слов пациентов

Спросите врача

Постарайтесь сделать следующий визит к врачу максимально плодотворным

февраль опрос :
Рассматривали ли вы когда-нибудь возможность принять участие в клиническом исследовании?

- Да, так как мой доктор мне это советовал
- Да, но, к сожалению, я не могу быть подходящим кандидатом для таких исследований.
- Да, я собираюсь обсудить это с доктором
- Нет, я опасуюсь риска для своего здоровья и возможных побочных эффектов
- Нет, я опасуюсь, что от меня

По меньшей мере 28 миллионов жителей «большой» Европы страдают сердечной недостаточностью.

Более полное понимание своего состояния и незначительные изменения образа жизни позволяют многим пациентам, страдающим сердечной недостаточностью, жить полноценной и активной жизнью. Заняться своим здоровьем нужно прямо сейчас.



Анимированная презентация о сердечной недостаточности

Несколько простых, наглядных анимационных роликов, посвященных сердечной недостаточности и ее лечению

- **ОСНОВНЫЕ СВЕДЕНИЯ О СЕРДЕЧНОЙ НЕДОСТАТОЧНОСТИ**
Что такое сердечная недостаточность? Причины возникновения симптомов и методы исследования
- **Медикаментозное лечение, хирургические, электрофизиологические и механические методы лечения**
- **ЧТО МОЖЕТЕ ВЫ?**
Соблюдение диеты и схемы лечения, физические упражнения, наблюдение за симптомами болезни
- **ЖИЗНЬ С СЕРДЕЧНОЙ НЕДОСТАТОЧНОСТЬЮ**
Образ жизни, отношения, эмоции, психологическая поддержка
- **ЧЛЕНЫ СЕМЬИ И УХАЖИВАЮЩИЙ ПЕРСОНАЛ**
Как помочь больному, как ухаживать за собой, поддержка и финансовая помощь
- **ОПАСНЫЕ СИМПТОМЫ**
Наблюдение за симптомами; когда нужно звать на помощь
- **Часто задаваемые вопросы**
Ответы на часто задаваемые вопросы

Понравился ли вам сайт heartfailurematters.org?

Благодарим за помощь **Всероссийское Общество Специалистов по Сердечной Недостаточности.**



This site complies with the HONcode standard for trustworthy health information: [verify here.](#)

Tools for monitoring

MONITORING YOUR HEART FAILURE – SIGNS CHART



Use the table below to measure and record your weight, blood pressure and heart rate regularly.

You can then take this chart with you when you next see your doctor or nurse and discuss any changes. If you notice any large changes, you should discuss these with your doctor or nurse as soon as possible.

MONTH	MEASURES	MON	TUE	WED	THU	FRI	SAT	SUN
WEEK from to	WEIGHT <i>kg</i>							
	BLOOD PRESSURE <i>mm Hg</i>							
	HEART RATE <i>beats per minute</i>							

Medication reminders



FREE

Easily create and print medication schedules

MyMedSchedule.com® Revised: 04/26/13 at 7:59pm

Jonathan B Doe DOB: 12/21/1950
 Allergies: **No known drug allergies** Wife: Jane Doe (757) 555-5555

Take These Medications	At These Times		
	8am	8pm	10pm
Prograf® (Tacrolimus) 1 mg Capsule(s)	3 Capsule(s)	3 Capsule(s)	
Rapamune® (Sirolimus) 1 mg Tablet(s)	2 Tablet(s)		
Valcyte® (Valganciclovir Hydrochloride) 450 mg Tablet(s)	1 Tablet(s)		
Prednisone 5mg Tablet(s)	Please see your Tapering Schedule		
Prilosec® (Omeprazole) 20 mg Capsule(s)	1 Capsule(s)		

MyMedSchedule.com® Revised: 4/26/2013 at 7:59 PM

Jonathan B Doe DOB: 12/21/1950
 Allergies: **No known drug allergies** Wife: Jane Doe (757) 555-5555

Medication	8 am	8 pm	10 pm
Prograf® (Tacrolimus) 1 mg Capsule(s)	3	3	
Rapamune® (Sirolimus) 1 mg Tablet(s)	2		
Valcyte® (Valganciclovir Hydrochloride) 450 mg Tablet(s)	1		
Prednisone 5mg Tablet(s)	Please see your Tapering Schedule		

Free medication schedules, reminders, and **NEW** Health Tracker

Thousands of patients and caregivers use MyMedSchedule to manage meds and labs on the go, set reminders, and make it easier to communicate with their healthcare providers. Now MyMedSchedule includes **My Health Tracker** and

Mobile Apps Help Ease Congestive Heart Failure Symptoms

A UCLA study suggests that linking mobile sensors that monitor physiological functions and physical activities to smartphones may help reduce the risk of rehospitalization.

Wireless sensors that monitor physiological functions and physical activities can help reduce symptoms of congestive heart failure and potentially prevent many hospital readmissions, a new study suggests.

Researchers at the [UCLA Wireless Health Institute](#) and the [UCLA School of Nursing](#) found a small but statistically significant reductions in abnormal readings of weight and blood pressure among elderly patients who had access to wireless, mobile monitors and regular feedback from physicians. They reported their [findings](#) in the Journal of Medical Systems.



ademoeftening te doen. Zo voel je je ontspannen en hartcoherent waardoor je hart en brein optimaal samenwerken.

13 March at 16:15 · Share



Kirsten V Leeuwen



Vind je Willem de Heer's profielfoto leuk?

Kirsten V Leeuwen's antwoord:

1: Bekijk het antwoord



18 February at 10:48 via De waarheid over je vrienden · Like · Comment ·
Speel nu

RECENT ACTIVITY



Willem changed his Profile picture.



Willem is now friends with W.m. de Heer and 2 other people.



"hallo eefje!" on Evelien de Heer's photo.



"mooi hoor" on Karin van den Bogaard's status.



Willem de Heer



walked 3.6 km in 59 mins and burned 296 calories

7 dec. 2010 11:13:31



07 December 2010 at 14:44 via Cardio Trainer · Like · Comment

RECENT ACTIVITY



Willem posted a photo to Karin van den Bogaard's Wall.

Heart Failure Patient After Adult Stem Cell Therapy

cellmedicine 83 videoklipp Prenumerera



Förslag



Adult Stem Cells Used To Rebuild Heart Tissue /...

av rosaryfilms
14 402 visningar



Adult Stem Cells Success Stories Joe Davis

av StemCellFacts
7 728 visningar



Stem Cell Therapy for Type II Diabetes

av cellmedicine
12 477 visningar



Congestive Heart Failure

av bmedinago
93 295 visningar



Adult Stem Cell

Game computers?

'Rehagames'

- Nintendo Wii
- Virtual walk
- Robotic therapy
- Memory games
- Virtual shopping mall



Wii

Increase and augment bodily movement.

Wii sports can get you moving, but there is not getting around it, you can cheat by simply moving the remote and not moving your body all that much. So why not go out of your way by adding in movement to your Wii Sports experience. For example, when you play Wii Tennis...



...Try jumping as high as you can whenever a high ball comes your way. Try adding in a lunge with your swing when the ball is slightly out of reach on screen? I am sure you could come up with some of your own ideas on how to add in some extra body movements to the normal tennis monotony of swinging a racket.

Create an Interval Experience

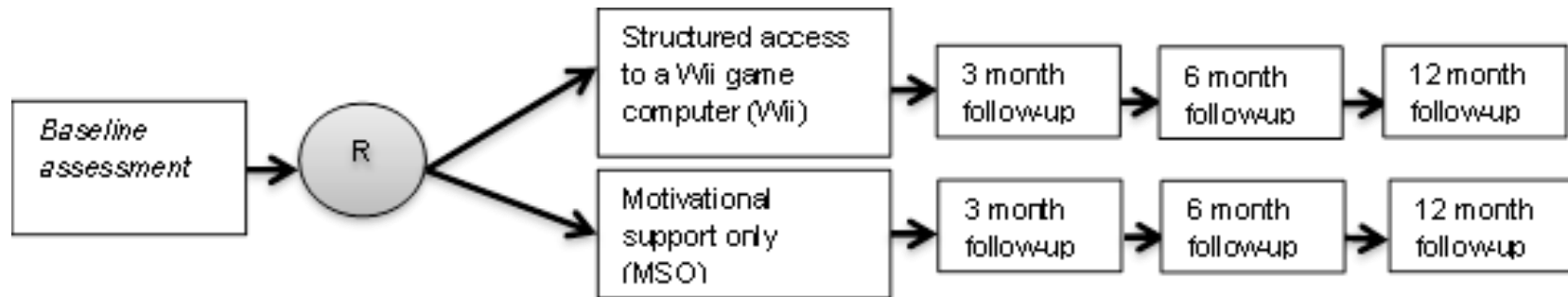
You burn more calories when you vary your heart rate and the intensity of exercise than when you run (workout) at a steady pace. So why not turn your Wii Sports experience into an interval training session. Wii



HF-Wii

RCT (clinicaltrial.gov NCT01785121)

HF-Wii.com







Main Menu

Wii Sports

Tennis

Baseball

Bowling

Golf

Boxing



Concluding remarks

Internet and virtual reality are the future

Concluding remarks

Internet and virtual reality are **the now**

- Role for professionals : Adherence to guidelines

Needed from professionals:

- **Open mind**
- **Safeguards**
- **Policy**

Concluding remarks

Internet and virtual reality are **the now**

- Role for patients : Adherence to treatment

Needed from **professionals**

- **Open mind for input from patients (google generation)**
- **Discuss policy**
- **Look for 'new' solutions for 'old' problems**



Vapenspecificatis, unde omnis

INGRAM

LÄSARE

1866

1860

EX

Voilà un



Onlin
www.liu.se/onlin

con iungit
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DIDAK

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skadeständi/förstär rät

Erövringar

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GUSQUIS AMAT REGEM
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kan försörj

Por jag inte på Voilà



Improving care for patients with acute heart failure

Before, during and after hospitalization

Martin R Cowie
Stefan Anker
John GF Cleland
G Michael Felker
Gerasimos Filippatos
Tiny Jaarsma
Patrick Jourdain
Eve Knight
Barry Massie
Piotr Ponikowski
José López-Sendón



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