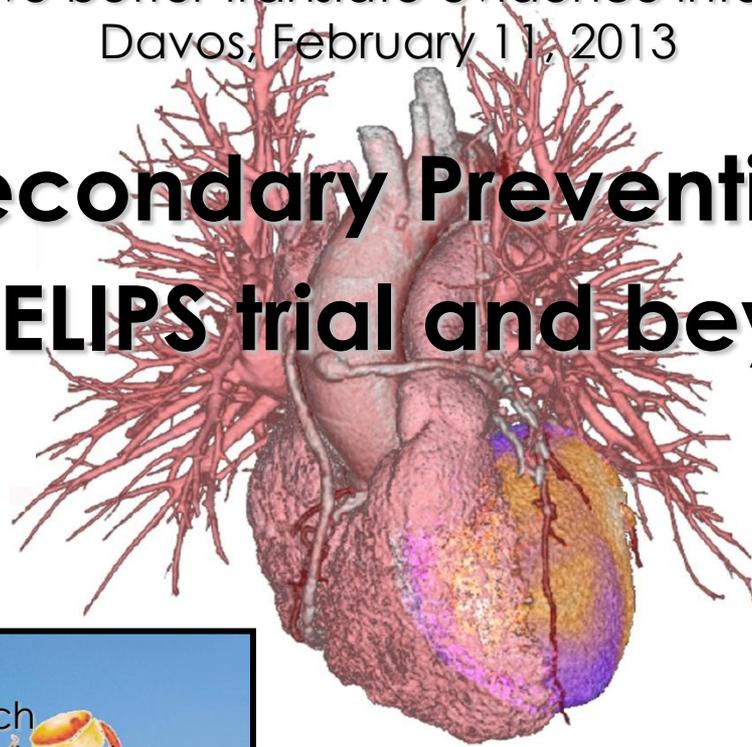


Cardiology Update 2013
How can we better translate evidence into practice ?
Davos, February 11, 2013

Secondary Prevention The ELIPS trial and beyond



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I don't have any conflict of interest for this presentation

ACS: a poor prognosis

STEMI

NSTEMI

30-Day Mortality

8 %

6 %

1-Year Mortality

9 %

11.6 %

ACS: a high rate of recurrent CV event

N=68'236 patients

Why is there a high recurrence rate ?

0 
Cardiovascular Mortality /
MI / Stroke

cardiovascular death, angina, PAD)
within the next 12 months following
an ACS.

■ at risk of atherothrombosis

■ established atherosclerotic arterial disease

ACS: a poor prognosis

- **Why is the recurrence rate so high ?**
 - ❑ **Under use of recommended therapy by physician**
 - ❑ **Atherosclerosis is a chronic disease with a complex treatment**
 - ❑ **Lack of therapeutic adhesion by the patient**

Lack of adherence-compliance

Reality

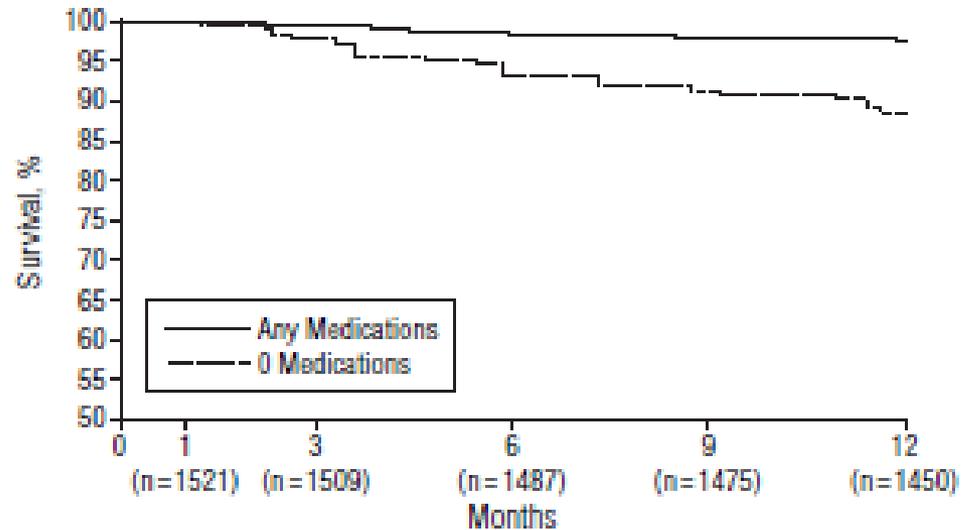
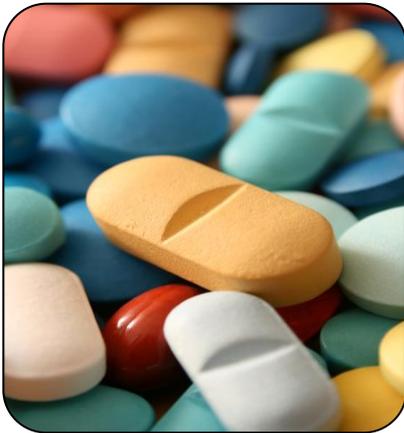


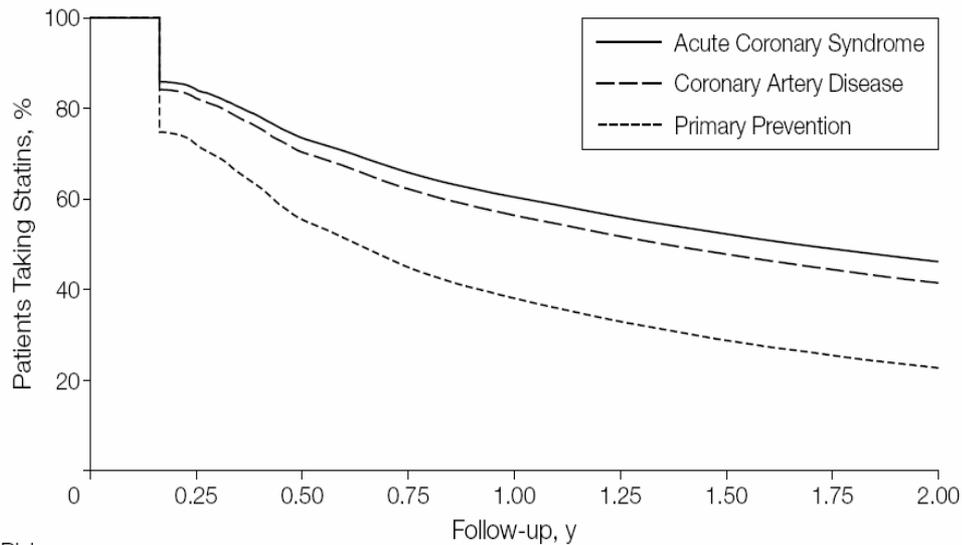
Figure 2. Kaplan-Meier survival curve comparing patients discontinuing use of all medications at 1 month with patients continuing use of 1 or more medications among patients discharged with all 3 medications (log-rank test, $P < .001$).

**Improving adherence to treatment:
A target with more impact than any other treatment !**

Adherence to statins

All patients aged 66 years of older from Ontario who received at least 1 statin prescription

Figure. Survival Curves for Adherence With Statins in 3 Cohorts



	No. at Risk	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00
Acute Coronary Syndrome	22379	16312	12901	10662	8977				
Coronary Artery Disease	36106	25416	19558	15823	13094				
Primary Prevention	85020	47685	33564	26401	21602				

All curves are based on a Cox proportional hazards model adjusted for covariates. The median follow-up was 494 days for acute coronary syndrome, 430 days for coronary artery disease, 235 days for primary prevention, and 303 days for overall.

At 6 months: > 25% stopped statins

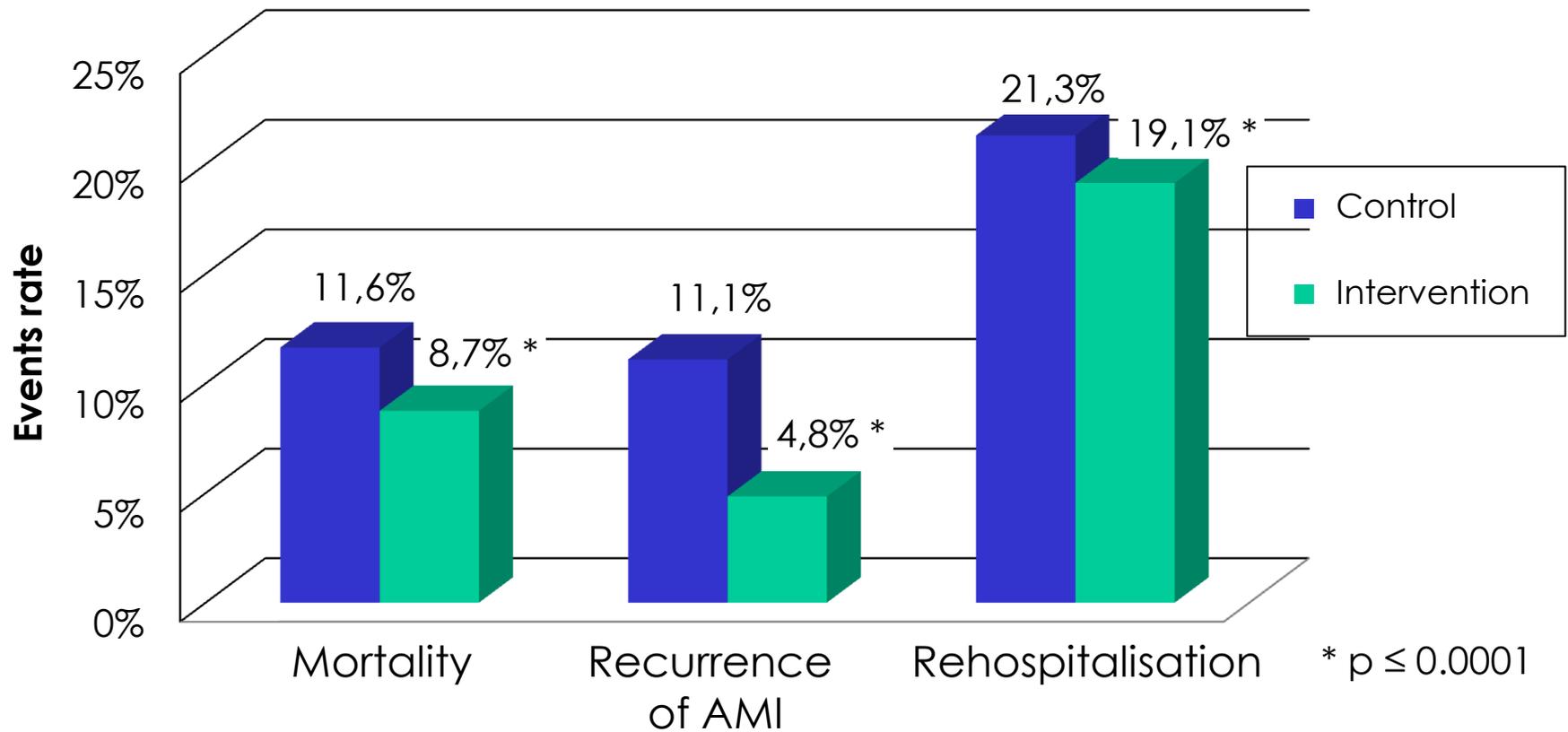
Two-year continuous adherence rates:

- **ACS: 40.1%**
- **chronic CAD: 36.1%**
- **primary prevention: 25.4%**

Adherence to therapy

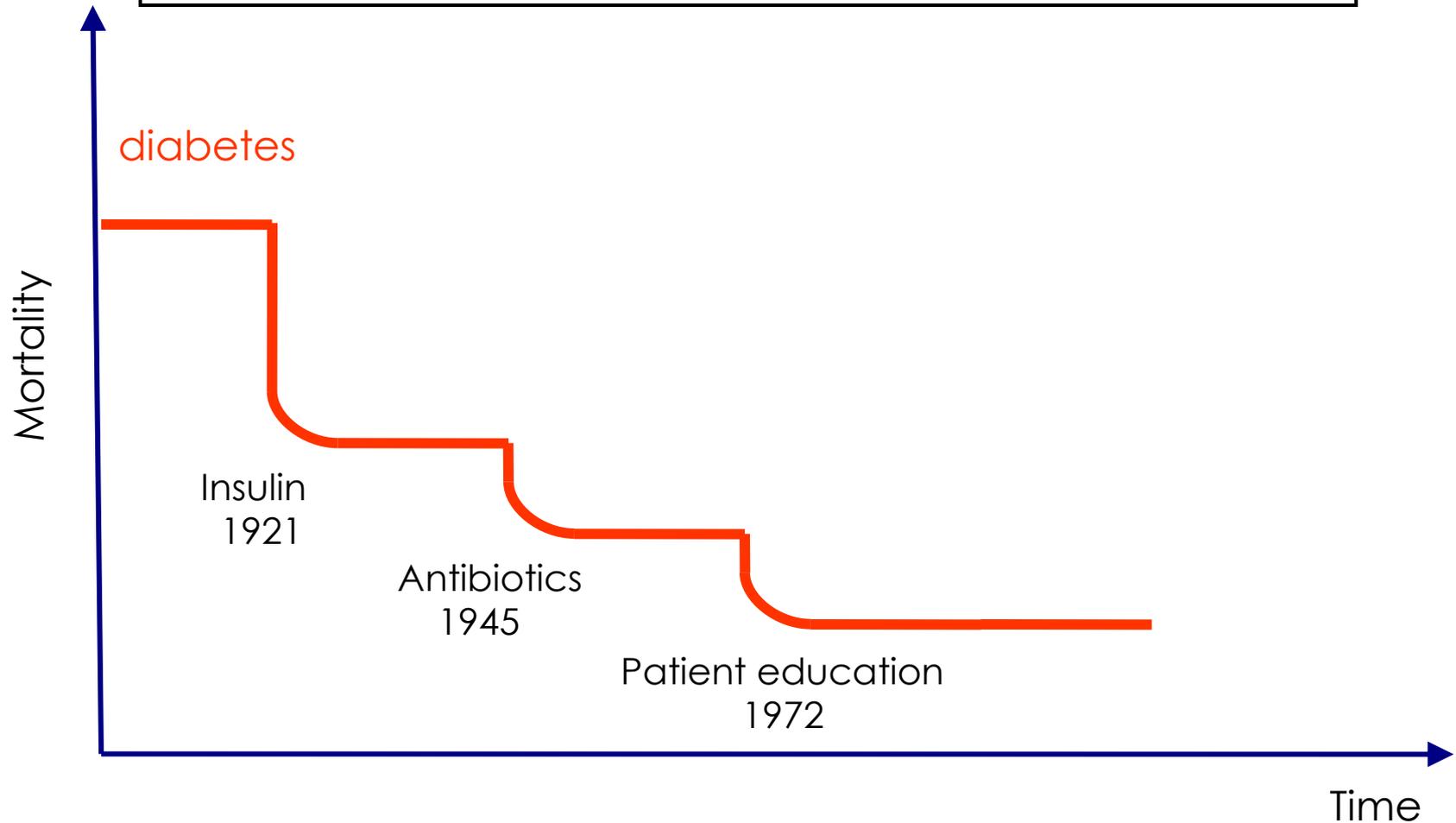
Preventive Cardiology

Efficacy of In-Hospital Multidimensional Interventions of Secondary Prevention After Acute Coronary Syndrome A Systematic Review and Meta-Analysis



The results of Therapeutic Education in chronic diseases

TE has optimized application of biomedical advances





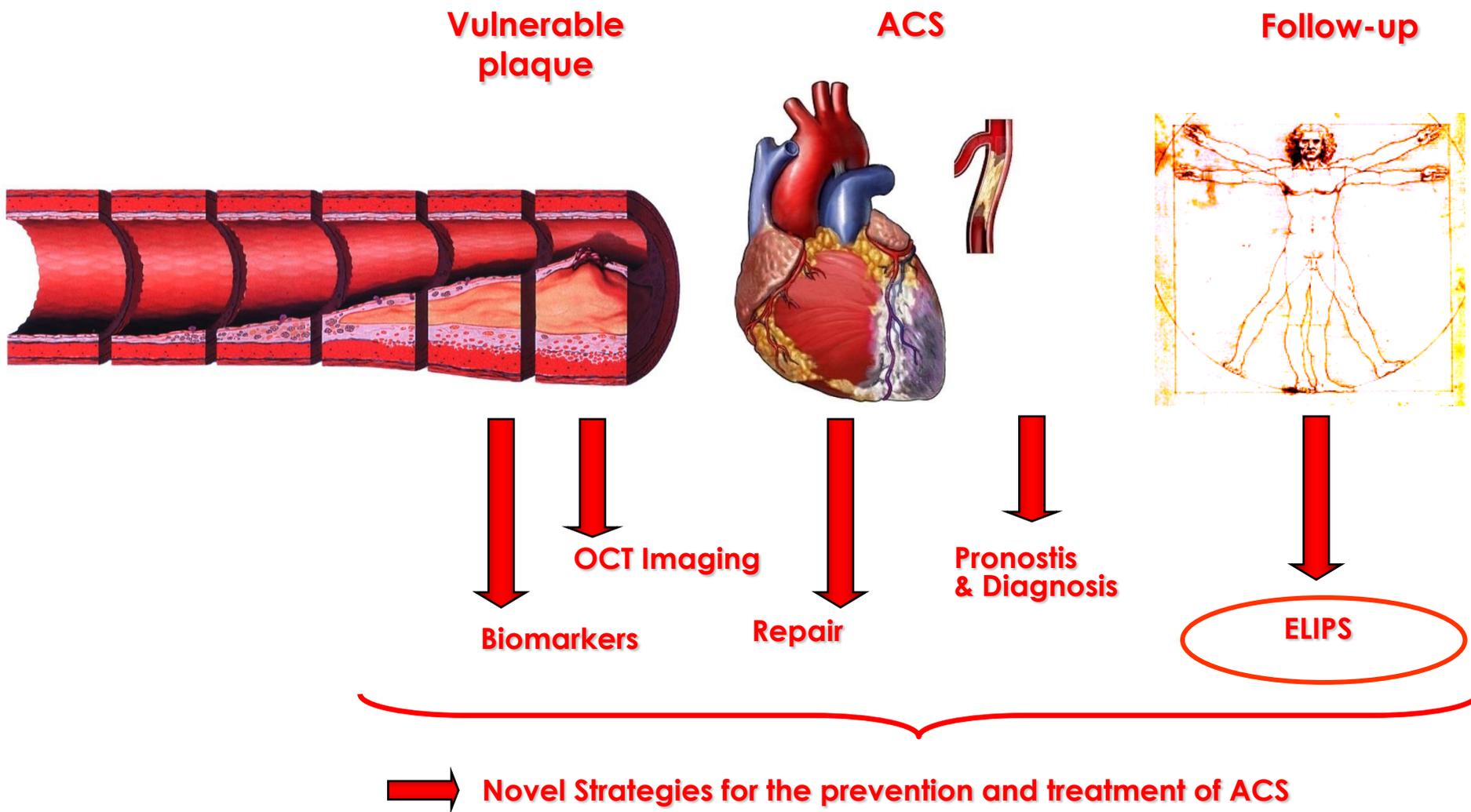
ELIPS: a Multi-dimensional prevention program after ACS

Department of Cardiology
Geneva University Hospital



“Acute Coronary Syndrome-Inflammation“

FNS SPUM Project (www.spum-acs.ch)



SPUM-ACS-centers in Switzerland: Geneva: Prof F. Mach, Bern: Prof S. Windecker, Zürich: Prof T. Lüscher (PI of global grant)

Tools of information → comprehension and motivation of the patient by using uniform messages: **Patient-level intervention**



ELIPS

For hospitals and outpatient practices



www.elips.ch



Multi-dimensional

web

ELIPS® EDUCATIONAL THERAPEUTIC PROGRAM TO FIGHT HEART ATTACKS AND ATHEROSCLEROSIS

Main page Heart attack: an emergency The atherosclerosis: a chronic disease Treatment and medical follow up

Medical staff infos

ELIPS... What is it ?

Avoid the recurrence
The Movie:

How to prevent attack

Practical Health advice pamphlets

Patient's space

Ethical chart

For patients
For Healthcare providers

ELIPS®
Hôpitaux Universitaires de Genève
rue Gabrielle Perret-Gentil 4
(ex - 24 rue Michell-du-Crest)
1211 Genève 14
e-mail : elips.heart@hcuge.ch

Evaluate your Cardiovascular risk

Cholesterol Diabetes Hypertension Salt Weight excess Tobacco smoking Alcohol

www.elips.ch



Multi-dimensional

DVD



Tools of Communication

Inter-active participation

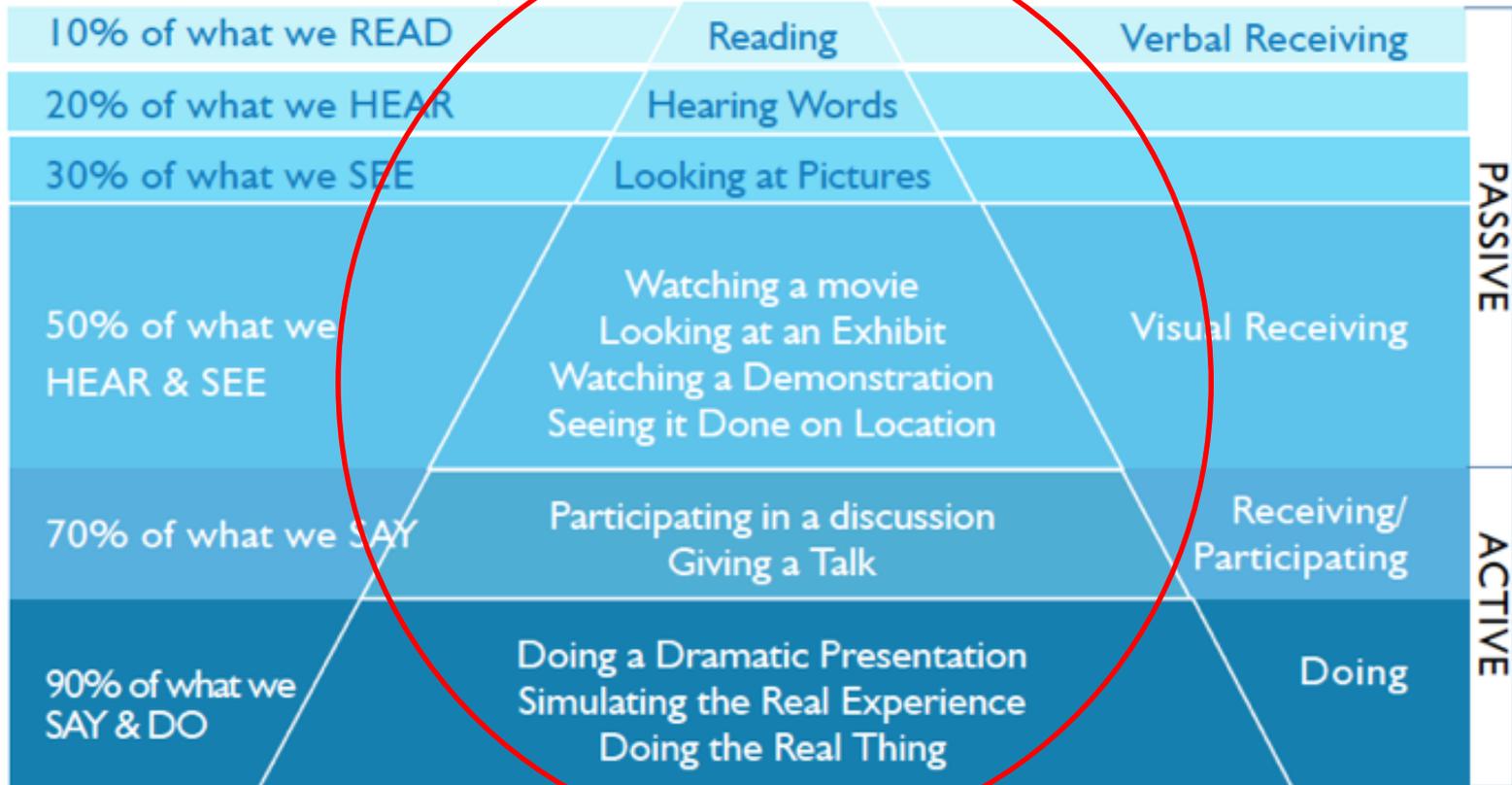


Tools of Communication

CONE OF LEARNING (EDGAR DALE)

After 2 Weeks
we tend to remember

Nature of Involment





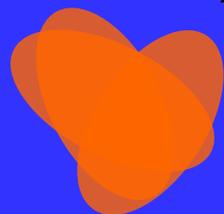
Novel information tools about ACS and Atherosclerosis:

- **a standardized discharge card of treatment**
- a website, an e-learning
- an educational DVD
- information flyers & wall chart

and

- **symposiums of information for outpatient and physicians organized by local university hospitals**

Tools offered to GPs, internists, cardiologists for their patients



ELIPS study

Inclusion: ACS

Phase 1
Inclusion before
ELIPS
(n=1400, control group)

Bio-clinical trial
(12 months Follow-Up)
Quality trial
(3 weeks after inclusion)



Program Start Summer 2011

Phase 2
Inclusion after
ELIPS
(n=1500, treated group)

Bio-clinical trial
(12 months Follow-Up)
Quality trial
(3 weeks after inclusion)

1° Endpoint: Adherence, CV events

2° Endpoint: Bio-clinical : BMI ↓, LDL ↓, CRP ↓, HDL↑, tabacco, etc...

SPUM-ACS studies

STUDY SITE	BIOMARKER		Biomarker Control	Comfortable Imaging/Stent COMPLETED	ELIPS Intervention/Control		SPUM TOTAL
	Last 7 days	Total			Last 7 days	Total	
BERN	3	801		60/250	-	439/230	1,779
GENEVA	10	374		13/82	9	402/616	1,473
LAUSANNE	1	350		-	1	435/375	1,161
ZH	12	1000	109*	3/45	-	205/145	1,476 (109 controls)
TOTAL	26	2520	109*	103/1161	10	1471/ 1366	5,862

Data on Monday, February 4th, 2013

ELIPS – preliminary results

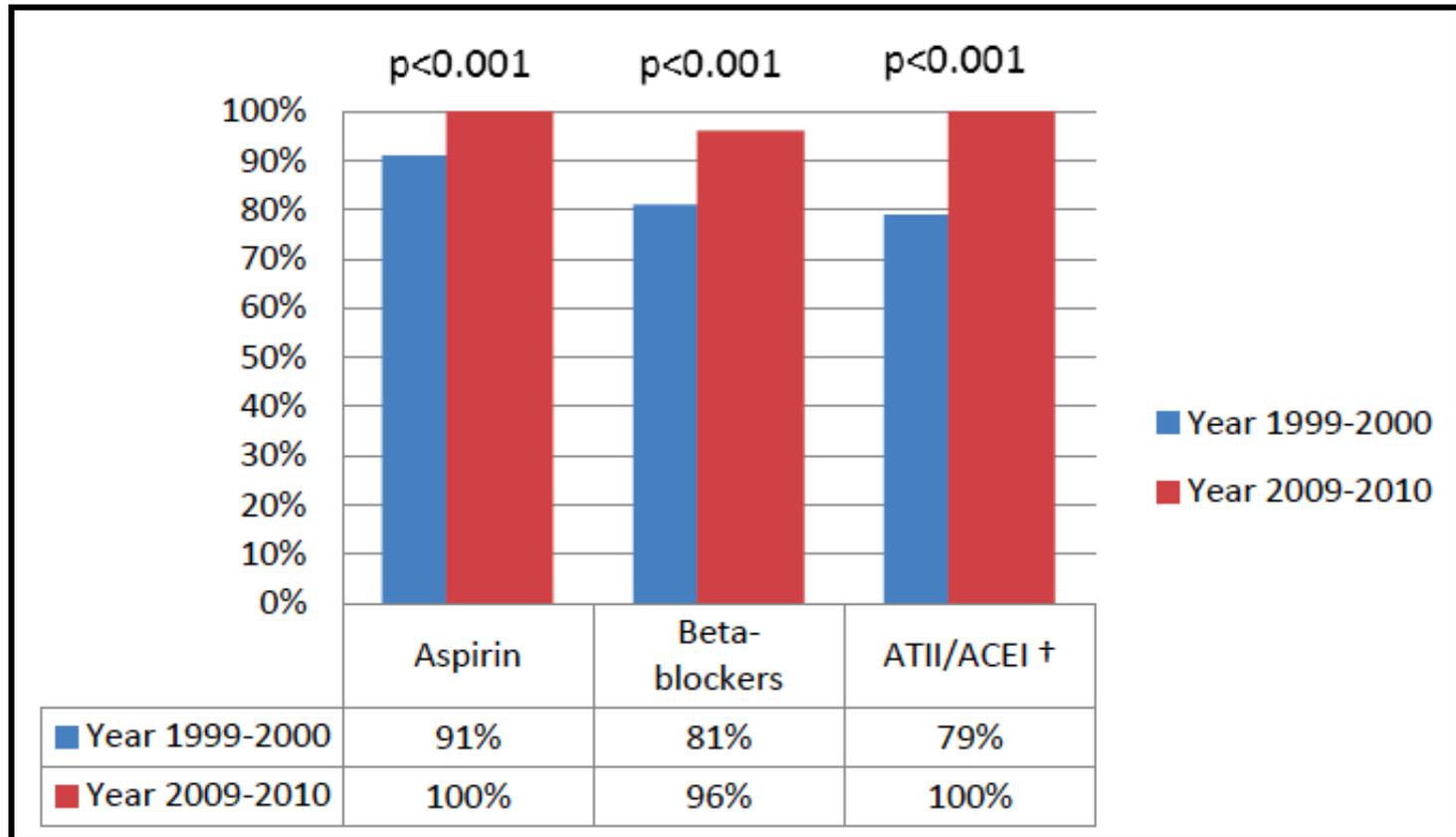
Documented Recommended Treatment at Discharge
of Participants Hospitalized for an ACS (2009-2010)

	Total	Unstable angina	NSTEMI	STEMI
	N=1,260	N=81	N=491	N=688
Aspirin Documentation,%	100%	100%	100%	100%
Aspirin Prescription, %	99.4 %	98.8 %	99.0%	99.7%
P2Y12 inhibitors Documentation %	99.9%	100 %	99.7%	100 %
P2Y12 inhibitors Prescription, %	99.8 %	100 %	99.5%	100%
Statins Documentation, %	98.6%	96.3%	98.0%	99.3%
Statins Prescription, %	98.0 %	95.1 %	97.4 %	98.8 %
Beta-blockers Documentation, %	96.1%	92.6%	95.3 %	97.0%
Beta-blockers Prescription, %	81.7 %	76.5 %	83.3 %	81.1 %
ATII/ACEI Documentation, % (LVEF ≤40%)	100 %	100 %	100 %	100 %
ATII /ACEI Prescription, % (LVEF ≤40%)	90.8%	85.2 %	88.2 %	93.3 %
Cardiac Rehabilitation, %	61.5%	17.3%	54.0%	72.1%

Submitted data

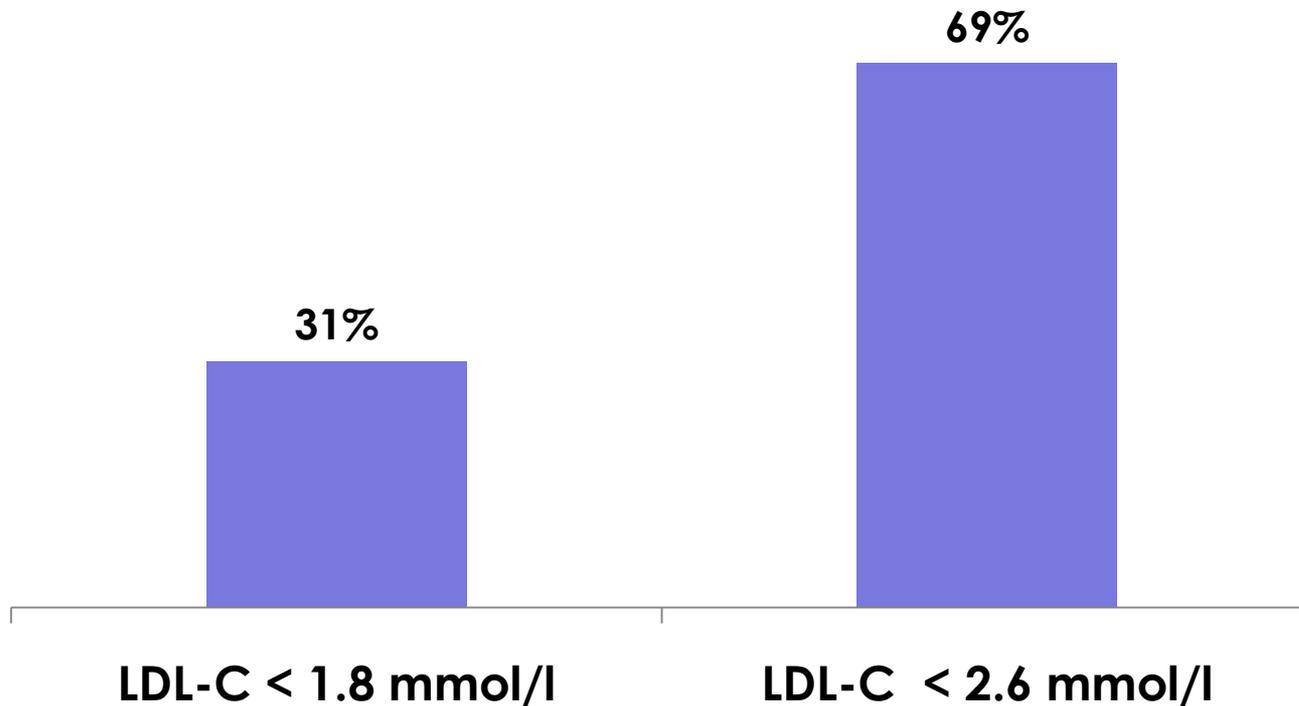
ELIPS – preliminary results

Improvement in quality of care for patients discharged after ACS over the last 10 years



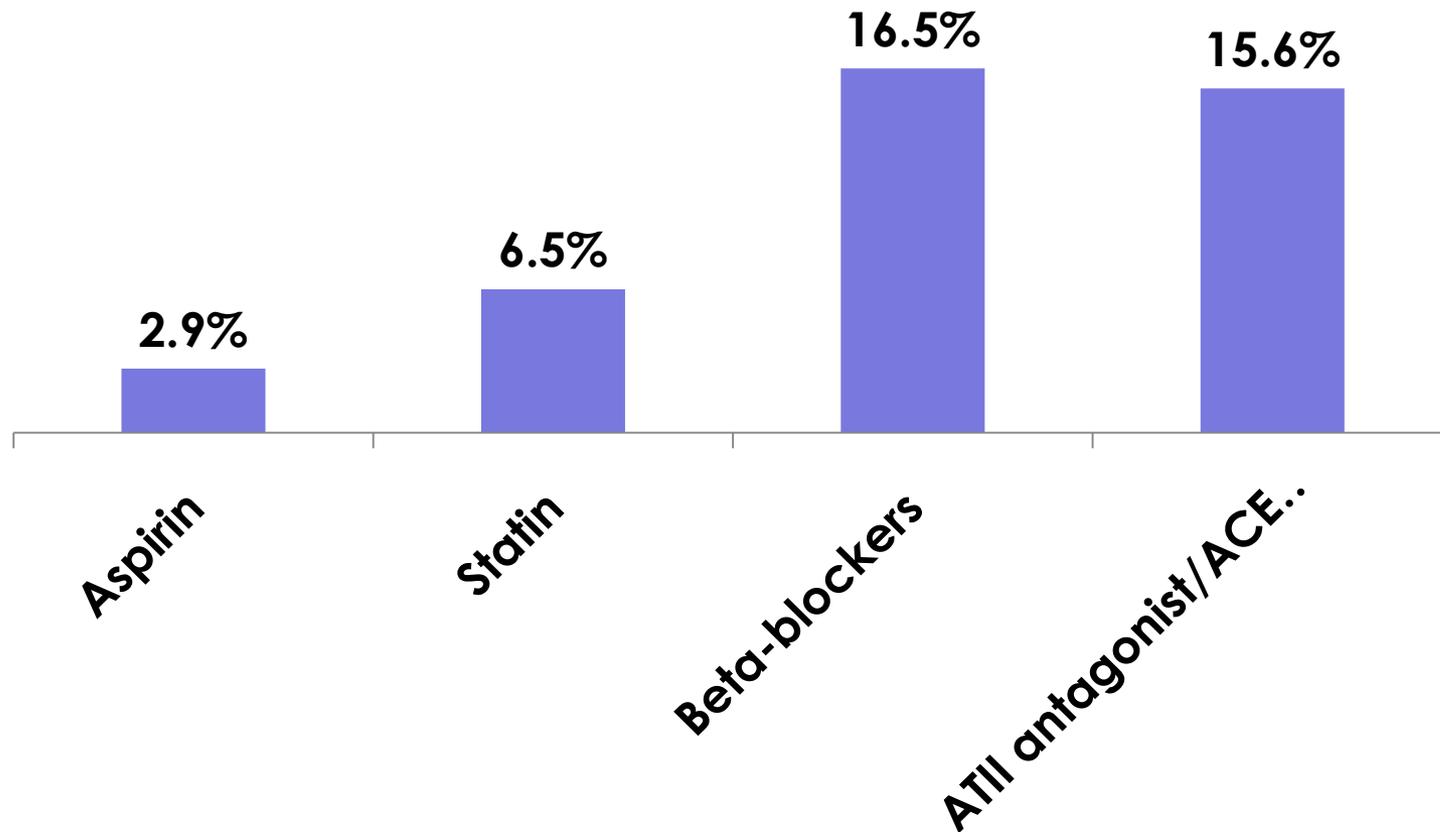
ELIPS – preliminary results

Patients reaching LDL goals 1 year after an
Acute Coronary Syndrome



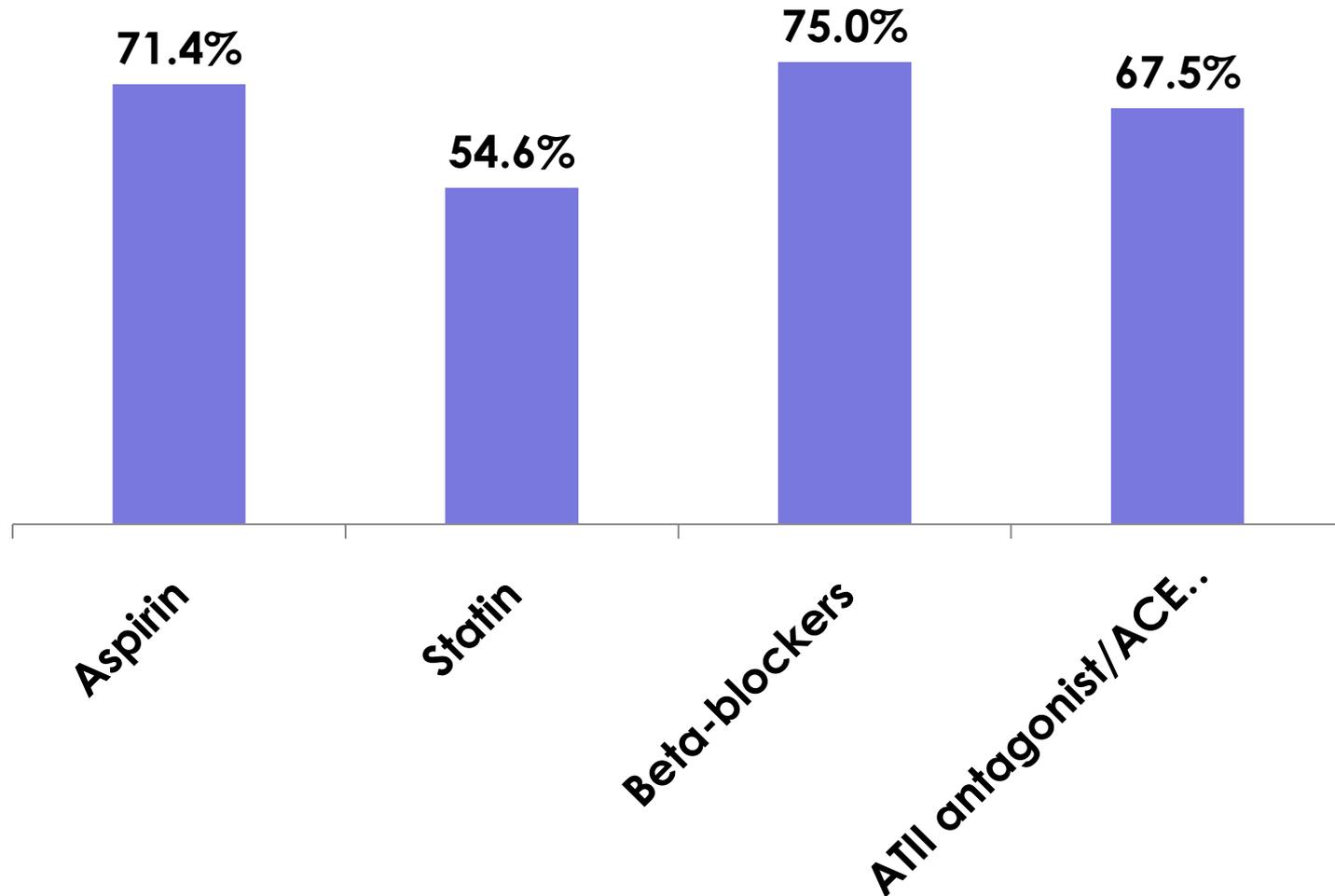
ELIPS – preliminary results

Discontinuation of Therapies 1 year after an Acute Coronary Syndrome



ELIPS – preliminary results

Proportion of Treatment Stopped by the Physician at 1 year



ELIPS – preliminary results

Documented recommended treatment at discharge of participants hospitalized for an ACS (2009-2010)

	Total	Unstable angina	NSTEMI	STEMI
	N=1,260	N=81	N=491	N=688
Aspirin Documentation, %	100%	100%	100%	100%
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P2Y12 inhibitors Documentation %	99.9%	100 %	99.7%	100 %
P2Y12 inhibitors Prescription, %	99.8 %	100 %	99.5%	100%
Statins Documentation, %	98.6%	96.3%	98.0%	99.3%
Statins Prescription, %	98.0 %	95.1 %	97.4 %	98.8 %
Beta-blockers Documentation, %	96.1%	92.6%	95.3 %	97.0%
Beta-blockers Prescription, %	81.7 %	76.5 %	83.3 %	81.1 %
ATII/ACEI Documentation, % (LVEF ≤40%)	100 %	100 %	100 %	100 %
ATII /ACEI Prescription, % (LVEF ≤40%)	90.8%	85.2 %	88.2 %	93.3 %
Cardiac Rehabilitation, %	61.5%	17.3%	54.0%	72.1%

Submitted data

ELIPS – preliminary results

Factors associated with attendance to cardiovascular rehabilitation among 1260 participants hospitalized for acute coronary syndrome in 4 academic centers in Switzerland from Sept 2009 to October 2010.

	Adjusted OR (95% CI) [†]	P value
Age		
< 65 years	Ref.	-
65 to 80 years	.6 (.4, .8)	<.001
>80 years	.3 (.2, .5)	<.001
Female gender	1.0 (.7, 1.4)	.83
Current smoking	.7 (.6, 1.0)	.05
Lower education[‡]	.7 (.5, 1.0)	.08
History of CHD	.3 (.2, .4)	<.001
Discharge diagnosis		
Unstable angina	.2 (.1, .3)	<.001
NSTEMI	.5 (.4, .7)	<.001
STEMI	Ref.	-

ELIPS – preliminary results

Improvements in quality of care for patients discharged after acute coronary syndromes over the last 10 years

Short title: Quality of care after acute coronary syndrome

Dr Reto Auer, MD¹; Dr Baris Gencer, MD²; Dr Lorenz Räber, MD³; Dr. Roland Klingenberg, MD⁴;
Dr Sebastian Carballo, MD, PhD⁵; Dr David Carballo, MD, MPH²; Dr David Nanchen, MD, MSc⁶; Pr
Jacques Cornuz, MD, MPH⁶; Pr John-Paul Vader, MD, MPH⁷; Pr. Pierre Vogt, MD⁸; Pr Peter Jüni,
MD⁹; Dr Christian M. Matter, MD⁴; Pr Stephan Windecker, MD³; Pr Thomas Felix Lüscher, MD⁴; Pr
François Mach, MD²; Pr Nicolas Rodondi, MD, MAS¹⁰

Discontinuation of Recommended Therapies One Year after an Acute Coronary Syndrome: Results from a Prospective Cohort

B. Gencer, N. Rodondi, R. Auer, D. Carballo, L. Räber, D. Nanchen, P. Vogt, S. Carballo, P. Meyer, P.-F. Keller, C.M. Matter, S. Windecker, T.F. Lüscher, F. Mach (Geneva, Bern, San Francisco, Lausanne, Porrentruy, Zürich, CH)

Lipid-Lowering Therapy Modification and LDL-C Goal Achievement after an Acute Coronary Syndrome: A Prospective Swiss Cohort

B. Gencer, F. Mach, R. Auer, D. Carballo, L. Räber, D. Nanchen, P. Vogt, S. Carballo, P. Meyer, P.-F. Keller, C.M. Schmiech, C.M. Matter, S. Windecker, T.F. Lüscher, N. Rodondi (Geneva, CH; San Francisco, US; Bern, Lausanne, Porrentruy, Zürich, CH)

Thank you



Dr Lukas Altweg
Dr Reto Auer
Dr Vincent Barthassat
Dr David Carballo
Dr Sebastian Carballo
Pr Jean-Claude Chevrolet
Dr Pierre Chopard
Mme Suzanna Convert
Prof Jacques Cornuz
Dr Pascal Gache
Pr Alain Golay
Mme Christelle Guillaume
Dr Pierre-Frédéric Keller
Dr Roland Klingenberg
Pr Thomas Luscher
Pr François Mach
Dr Christian Matter

Mme Suzanne Mueller
Pr Thomas Perneger
Dr Lorenz Raeber
Mme Agnies Reffet
Mme Ariel Richard-Arlaud
Dr Nicolas Rodondi
Dr Marco Roffi
M. Allen Savard
Mme Florence Scherrer
M. Franck Schneider
M. Philippe Sigaud
Dr Johanna Sommer
Pr Pierre Vogt
Pr Gérard Waeber
Pr Stephan Windecker



Lack of adherence is a major problem

**Improving adherence to treatment:
A target with more impact than any other treatment !**

Patient-level intervention

Health care providers-level intervention

Therapeutic Education will optimized applications of
biomedical advances



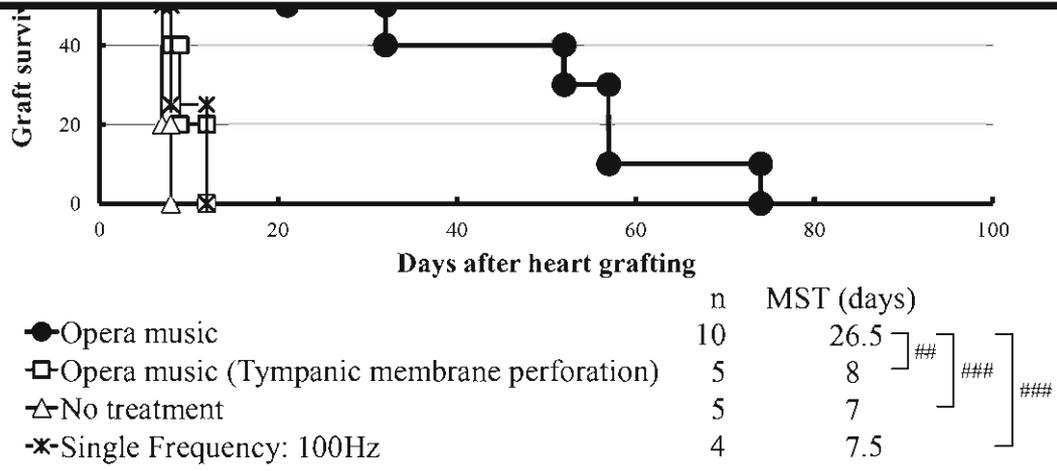
RESEARCH ARTICLE

Open Access

Auditory stimulation of opera music induced prolongation of murine cardiac allograft survival and maintained generation of regulatory CD4⁺CD25⁺ cells

Masateru Uchiyama^{1,2,3}, Xiangyuan Jin^{2,4}, Qi Zhang², Toshihito Hirai⁵, Atsushi Amano¹, Hisashi Bashuda³ and Masanori Niimi^{2*}

Conclusion: Our findings indicate that exposure to opera music, such as La traviata, could affect such aspects of the peripheral immune response as generation of regulatory CD4⁺CD25⁺ cells and up-regulation of anti-inflammatory cytokines, resulting in prolonged allograft survival.



Quid du chocolat...

OCCASIONAL NOTES

Chocolate Consumption, Cognitive Function, and Nobel Laureates

Franz H. Messerli, M.D.

Dr. Messerli reports regular daily chocolate consumption, mostly but not exclusively in the form of Lindt's dark varieties.

