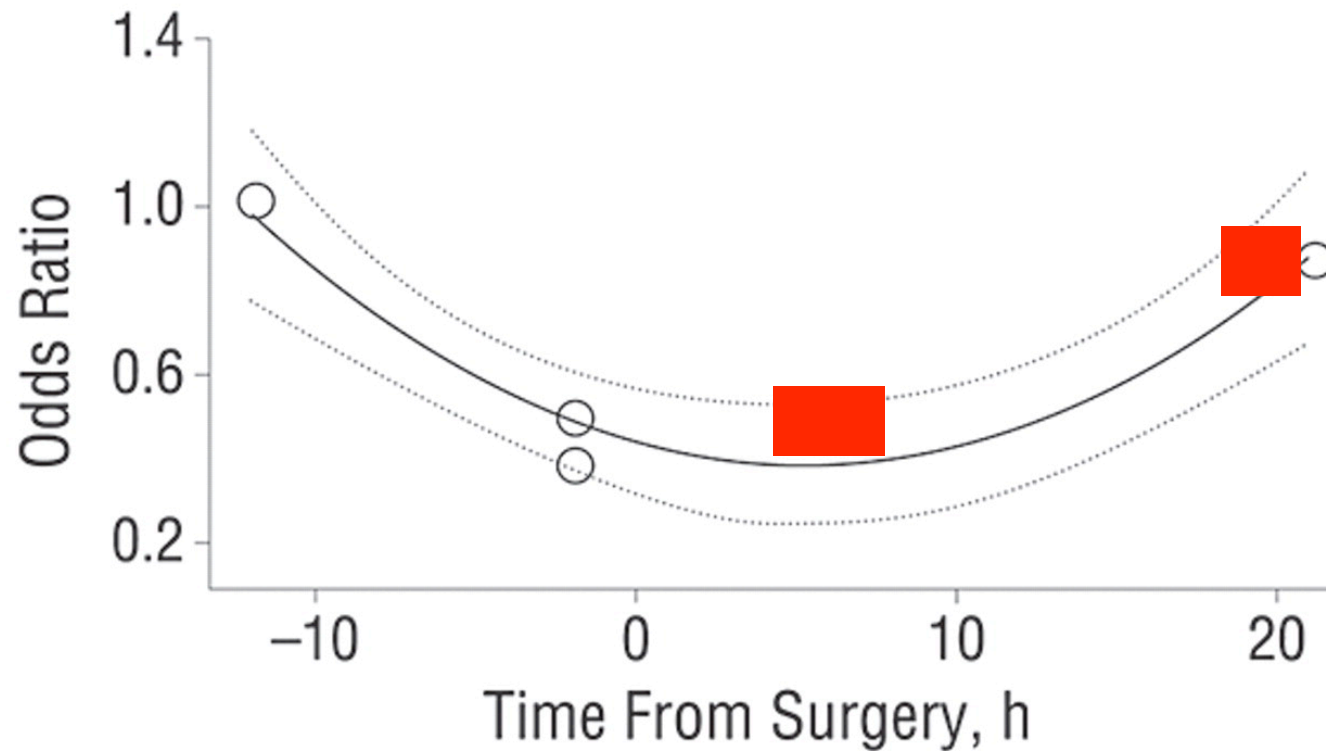


# Timing of VTE Prophylaxis

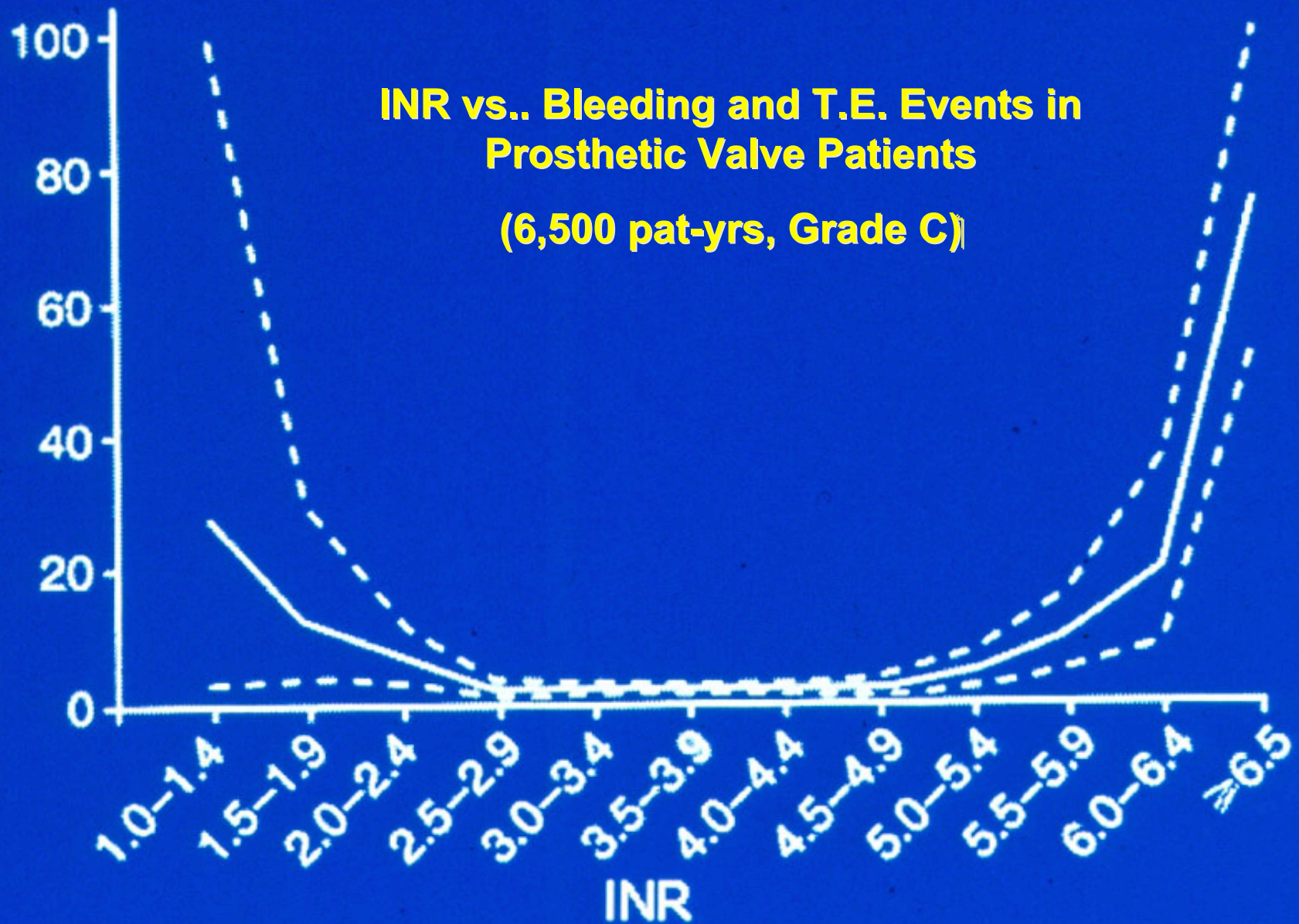


Hull, R. D. et al. Arch Intern Med 2001;161:1952-1960.

# A New Approach

- “A Superior Method of Oral Anticoagulation Management to Substantially Reduce Event Rates, Improve Quality of Life, and Reduce Health Care Costs”

Incidence per 100 Patient-Years



**INR vs.. Bleeding and T.E. Events in Prosthetic Valve Patients  
(6,500 pat-yrs, Grade C)**

All adverse event (dotted line = 95% C.I.)

Cannegieter et al. NEJM 1995

# INR Control vs. Ximelagatran (%/yr)

	48% n = 1190	68% n = 1207	*83% n = 1190	Est. mean for VKA n = 3587	Ximelag.
Stroke + SEE	2.1	1.34	1.07	1.5	1.6**
Maj. Bleed	3.85	1.96	1.58	2.46	no diff*
Mortality	4.2	1.84	1.69	2.58	
M. I.	1.38	0.89	0.62	0.96	
Total	11.53	6.03	*4.96	7.5	

\*NNT to prevent one of the above events = 39.4 for 83% in range group compared to entire warfarin group.

\*approx 34% fewer events in 83% gp vs. combined gps. (or ximelag.) and 50% fewer events vs. 48% pg. \*\*In the 2 studies the stroke + SEE event rates with warfarin were 2.3% and 1.2%, major bleeding was not different with warfarin vs. ximelagatran

White HD, et al. Arch Intern Med. 2007; 167:239-245

# ASA vs VKA in TIA/CVA with Intracranial Stenosis – WASID (revised)

Events	ASA	Warf	In Range	Est. DTI/Anti=Xa
Maj. Bleed	1.78	4.42	1.99	4.42
*Comb. Events	12.3	11.6	5.22*	11.6
*NNT		143 ?	14.1	143 ?

- Based on 45% reduction of other endpoints
- NNT to prevent one “Comb. Event” (ischemic stroke, brain hemorrhage, or death from vascular causes.)

Chimowitz MI, et al. N Engl J Med 2005; 352:1305-1316.

<http://www.clotcare.com/clotcare/aspirinfortia.aspx>

# Post-MI/Acute Coronary Syndrome

## Event rates (% per year)

Events	ASA	Warf	Est. 83% In Range	Est. DTI Anti-Xa
Maj. Bleed	0.9	0.9	0.45	0.9
Comb. Events*	9.2	5.1	2.6	5.1
Total Events**	10.1	6.0	3.0	6.0
NNT		23.4	14	23.4
NNH	111	111	222	111

\*Comb. Events = stroke, MI, or death \*\*Total Events = Comb. Events + Maj. Bleeds

NNT = number needed to treat for 1 year to prevent 1 stroke, MI, or death vs.ASA

NNH = number needed to treat for 1 year to cause 1 major hemorrhage

Derived from van Es RF, et al. (ASPECT 2) Lancet 2002; 360:109-13 and Rothberg MB, et al. Ann Intern Med. 2005; 143:241-250.

# Triple Intervention Study

- Goal:
  - Define, demonstrate a superior method for managing oral anticoagulation
  - Generate data to support a new reimbursement model
- Logistic considerations
  - Patients can continue to be seen in clinic
  - Compensation to referring practitioners for reduced revenue
  - Ready access to data online

# INRs vs Events in “Valve” Patients

	Warf. <sup>1</sup>	W+ASA <sup>1</sup>	Warf. <sup>2</sup>
Outcome	n=120	n=109	n=1608
High INR	13% (76% Maj Bld)		8%
Low INR	7% (72% TE)		31%
In Range	2.5-3.5, 79%		61%
Maj. TE	4.1	0.9	0.71
Maj Bld	8.3	19.2	2.68
Comb.	12.4	20.1	3.39
Mortality	4	9	
Compos.	16	29	

1. Laffort, et al. JACC, 2000;35:739-46 (200mgASA, St Jude MVR)
2. Cannegieter, et al. NEJM, 1995

## Vit. K vs. Placebo in Unstable\*\* Patients

	Before	Vit. K 150 mcg. n = 35	Before	Placebo n = 33
SD of INR	0.72	0.47*	0.7	0.59*
% Time in range	59	87*	63	78*
Improved/Stable		33/19		24/7
Inc. in dose		16%		1.5 %
Vit. K conc pg/ml		1502*		619*
# dose chg./6 mo.	5	2*	5	3*

\*\*Unstable: INR SD > 0.5 and  $\geq$  3 dosage changes in prev. 6 months

Ref: Sconce E et al. Blood 2007; 109:2419 -2423

## Phenprocoumon + Vit. K or Placebo (x 6 mo)

		Vit. K 100 mcg. n = 94		Placebo n = 95
	Before		Before	
% Time in range	79	89.5	80	85
% Time below range		2.1		3.1
% Time above range		8.5		11.4
% in range 100%		43		24
% dosage change		7	5	0.8

Rombouts EK et al. J Thromb Haemostasis online July, 2007  
DOI:10.1111/j.1538-7836.2007.02715.x

# INR Self Testing with Computer Support

N (pat-yrs)	TTR	TTR +/- 0.3	T < 1.5	T > 5	T < 1.5 or > 5
Irish study					
Clinic Management					
132	60.2	NR	NR	NR	6
Self-Testing + computer support					
132	71.4	NR	NR	NR	2.4
New Zealand study					
Usual Care					
43	71%	NR	20.7 < tx	0.57	NR
Self-testing + computer support					
43	80.4	NR	11.3 < tx)	0	NR
ACNA data (excluded first 3 months of data as stabilization phase)					
52 (199)	69.6	87.77	1.26	0.45	1.71

1. Ryan, F, et al. Blood 2008:112, abstract 879.
2. Harper PL, Pollock D. Blood 2008: 112, abstract 1278.
3. Thoma BN, et al. Annual Meeting, American College of Clinical Pharmacy, Dec. 2007, abstract #336