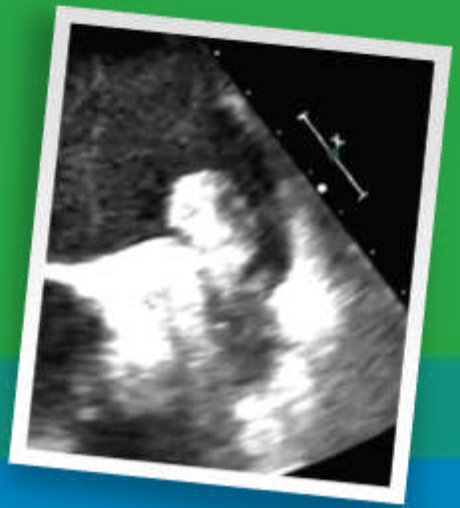
Eduardus-Krankenhaus Köln

Grenzentscheidungen bei Patienten mit Vorhofflimmern:

Wann Antikoagulation? Wann nicht? Wann nicht mehr?



Prof. Dr. Christoph Hammerstingl
Eduardus Krankenhaus Köln
Innere Medizin, Kardiologie

I

- Propädeutik?

II

- Wann OAK starten?

III

- Wann wird es schwierig?

Eduardus-Krankenhaus Köln

Begrifflichkeiten

NOAC bleibt NOAC!

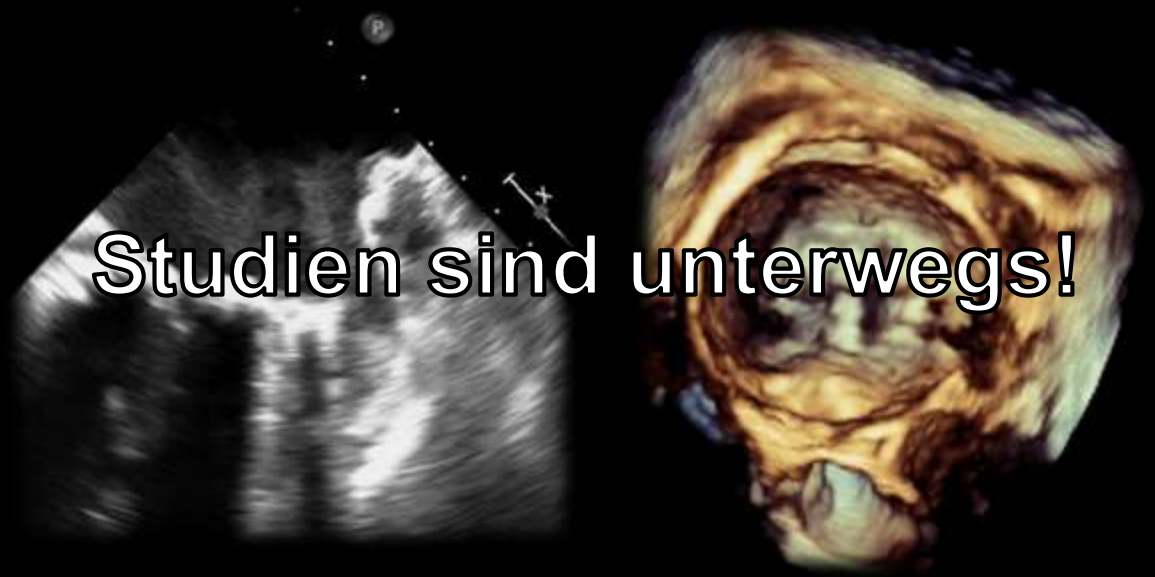
„***Neue OAK***“ wird zu „***nicht-Vitamin K abhängige OAK***“

DOAC ist OUT!

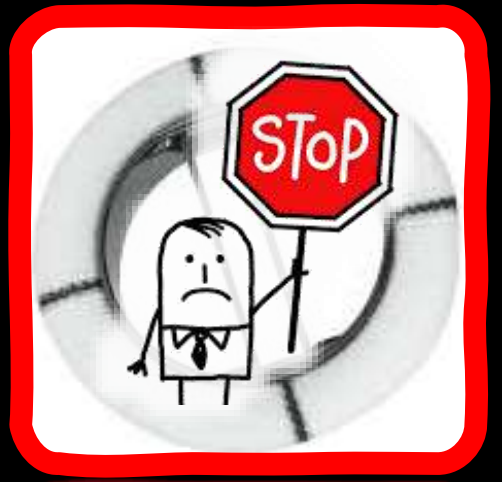
„Direkte OAK“ = fachlich korrekt, jedoch nicht ESC-konform.

European Heart Journal (2020) 42, 373- 498 .

! Valvuläres AF !

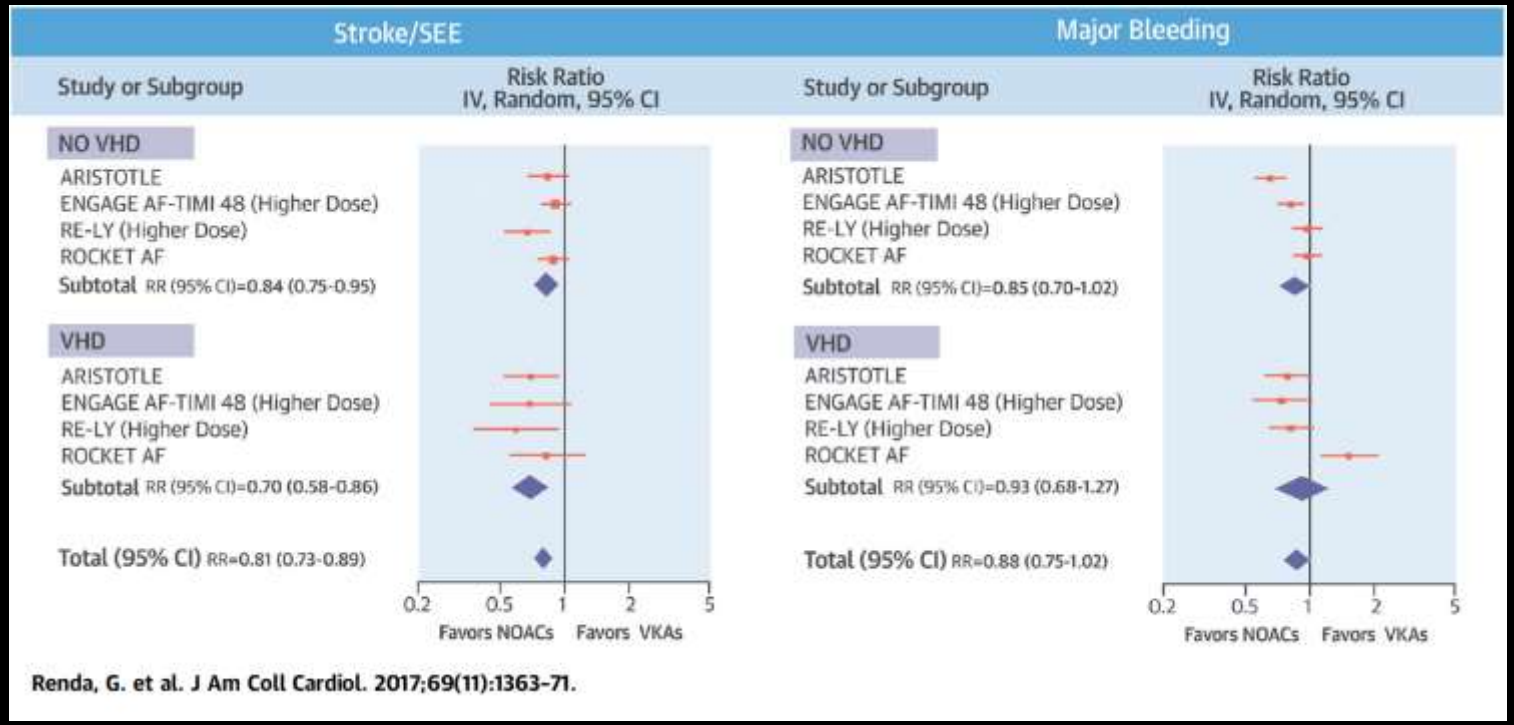


Studien sind unterwegs!



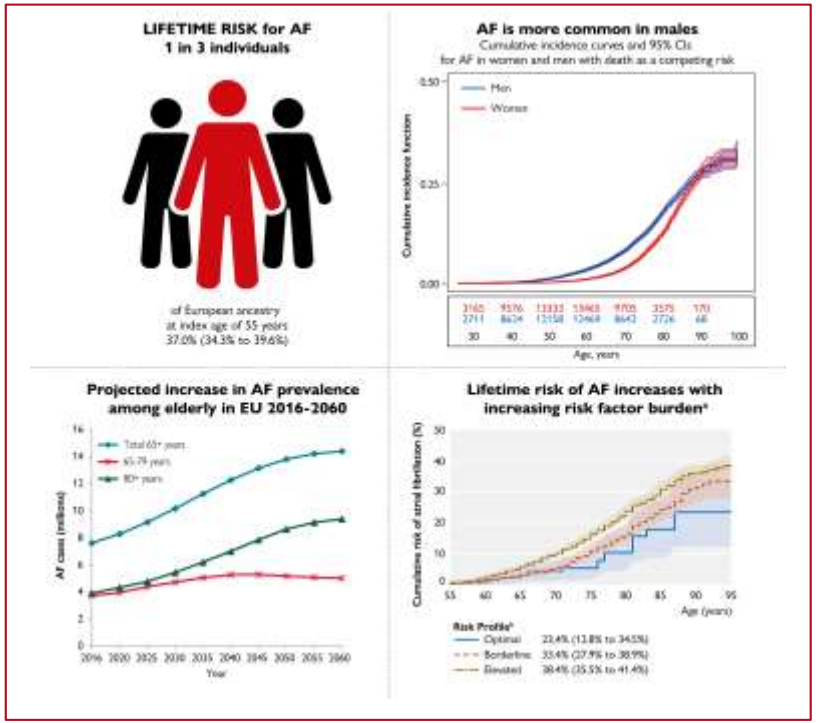
J Am Coll Cardiol. 2014;64(21):e1-e76.
European Heart Journal (2020) 42, 373- 498 .

Valvuläres AF ≠ AF in Gegenwart von Klappenerkrankungen



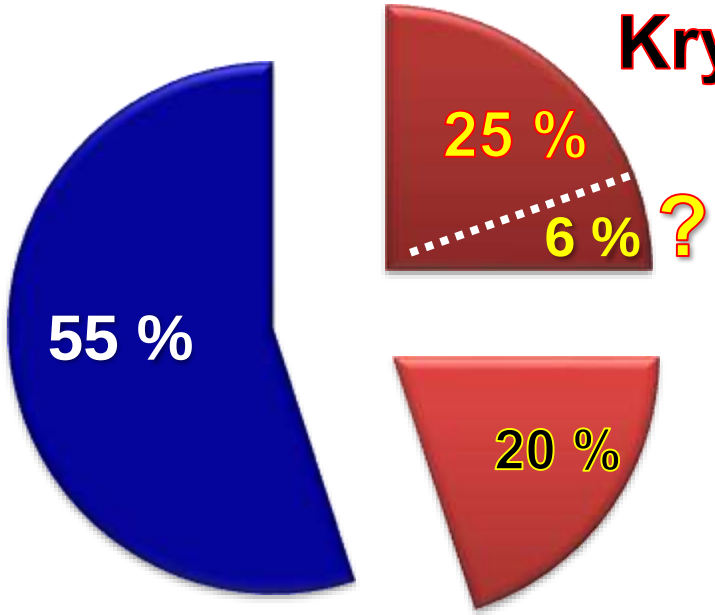
Disclaimer: „Es existieren keine direkten Vergleichsstudien/RCTs der NOACs, daher sollten hier keine direkten Vergleiche vorgenommen werden."

Vorhofflimmern ist häufig!



European Heart Journal (2020) 42, 373- 498
European Heart Journal (2013) 34, 2746–2751.
Circulation. 2017;136:1588–1597.

Ischämischer Apoplex



Kryptogener Apoplex

Unbekanntes Afib
⇨ mind. 12.000 / Jahr

Andere Gründe

Afib
ca. 40.000 / Jahr

Duning T et al. *Nervenheilkunde 2008;* Dec, 27(3): 175-86

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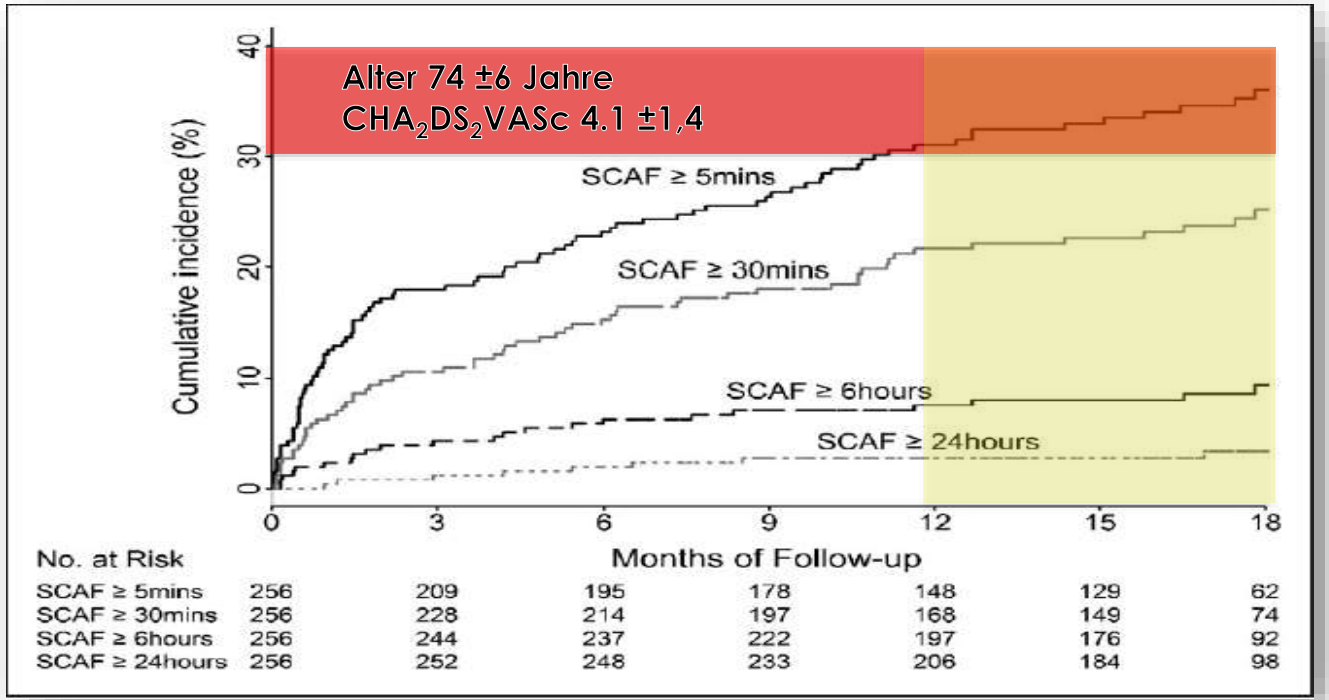
Häufiger als gedacht?!

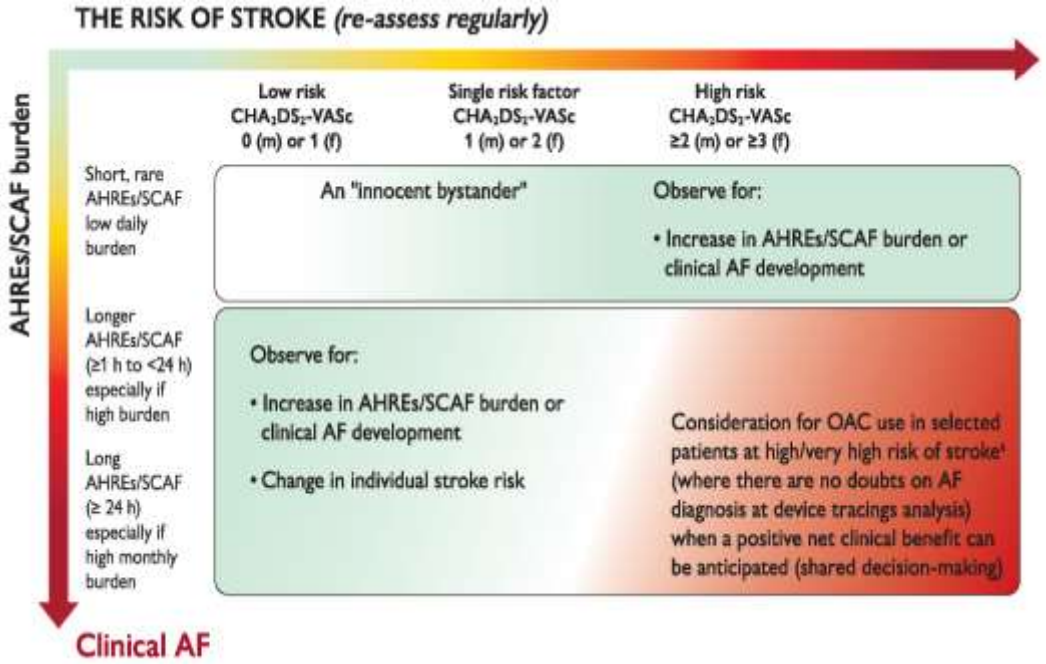


Circulation. 2017;136:1276–1283.

Wann OAC?

Stroke rates[b] per AHRE burden and CHA_2DS_2VASc category
(n = 21 768 device patients not taking OAC)[1466]

	Baseline maximum daily burden		
CHA_2DS_2-VASc score	No AF	AF 6 min–23.5 h	AF >23.5 h
0	0.33%	0.52%	0.86%
1	0.62%	0.32%	0.50%
2	0.70%	0.62%	1.52%
3-4	0.83%	1.28%	1.77%
≥5	1.79%	2.21%	1.68%



Eur Heart J, Volume 42, Issue 5, 1 February 2021, Pages 373–498.

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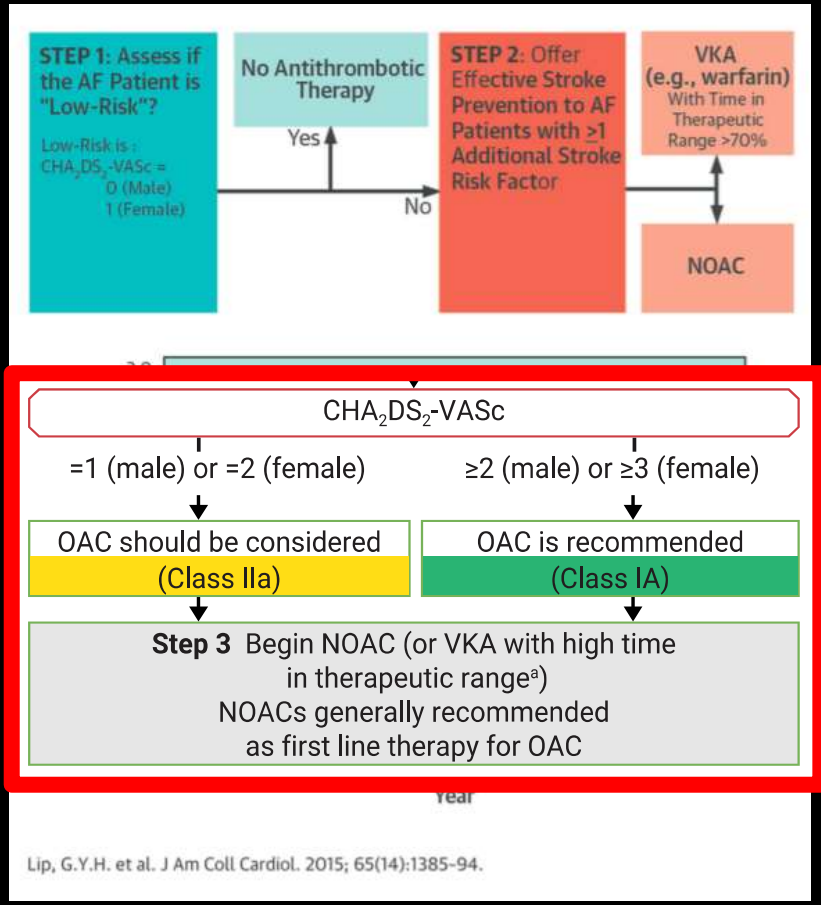
GRUPPE

Fallbeispiel

- **63-jähriger Mann**
- Palpitationen mit ED eines paroxysmalen Vorhofflimmerns
- Medikamentös kontrollierter AHT
- **CHA_2DS_2-VASc = 1, HAS-BLED = 1**


FRISK

Chao, T-F. et al. J Am Coll Cardiol. 2015; 65(7):635–42.



Lip, G.Y.H. et al. J Am Coll Cardiol. 2015; 65(14):1385–94.

European Heart Journal 2021; 42: 373–498.

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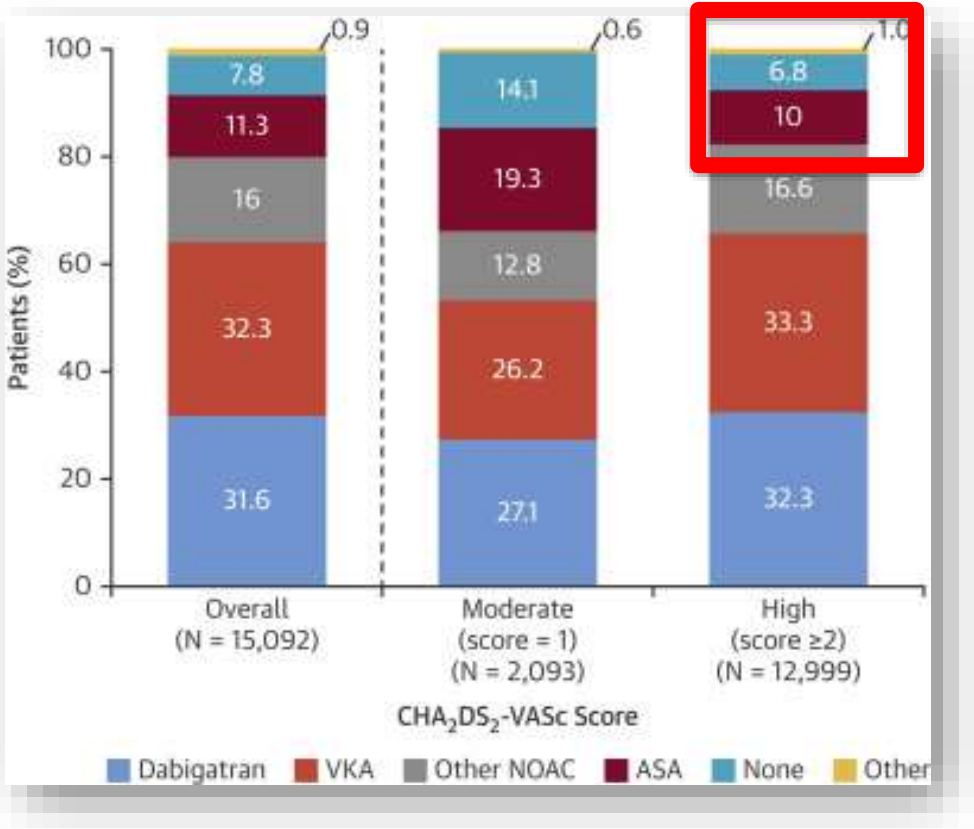
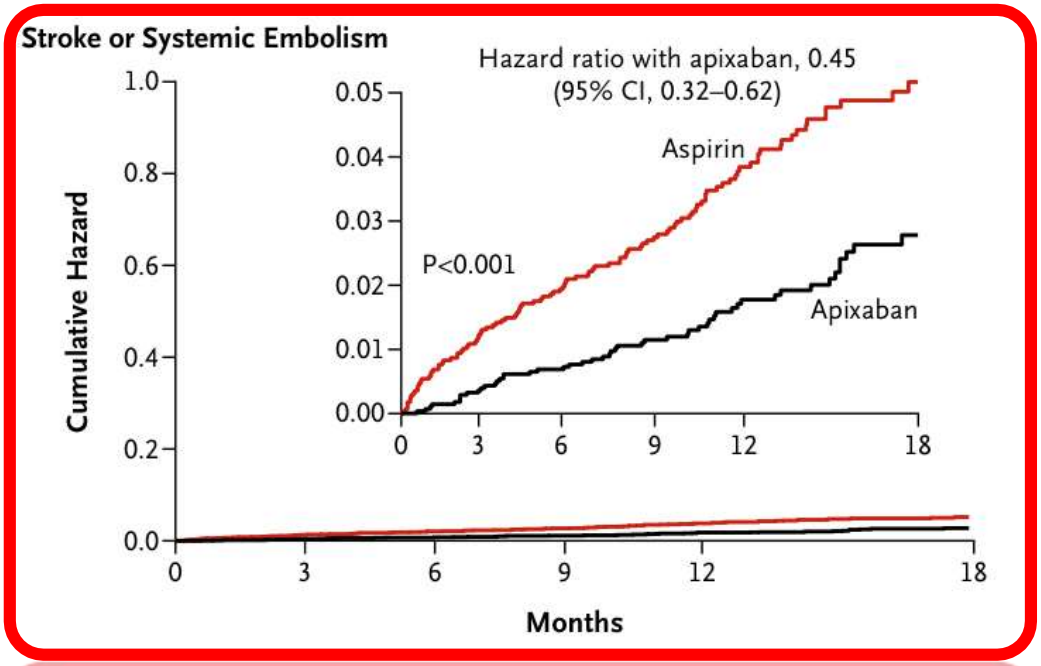
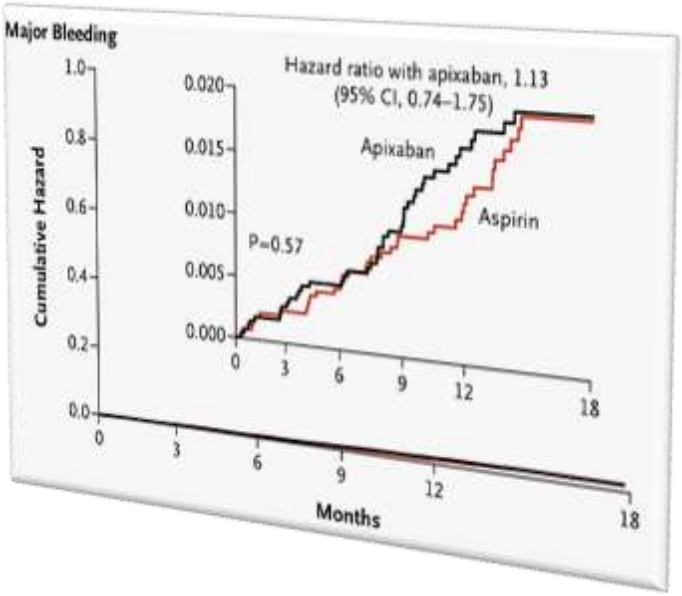
Wie wird´s gemacht?



Gloria AF Registry JACC, Volume 69, Issue 7, 2017, 777–785.

Bitte kein ASS!





N Engl J Med 2011; 364:806-817.

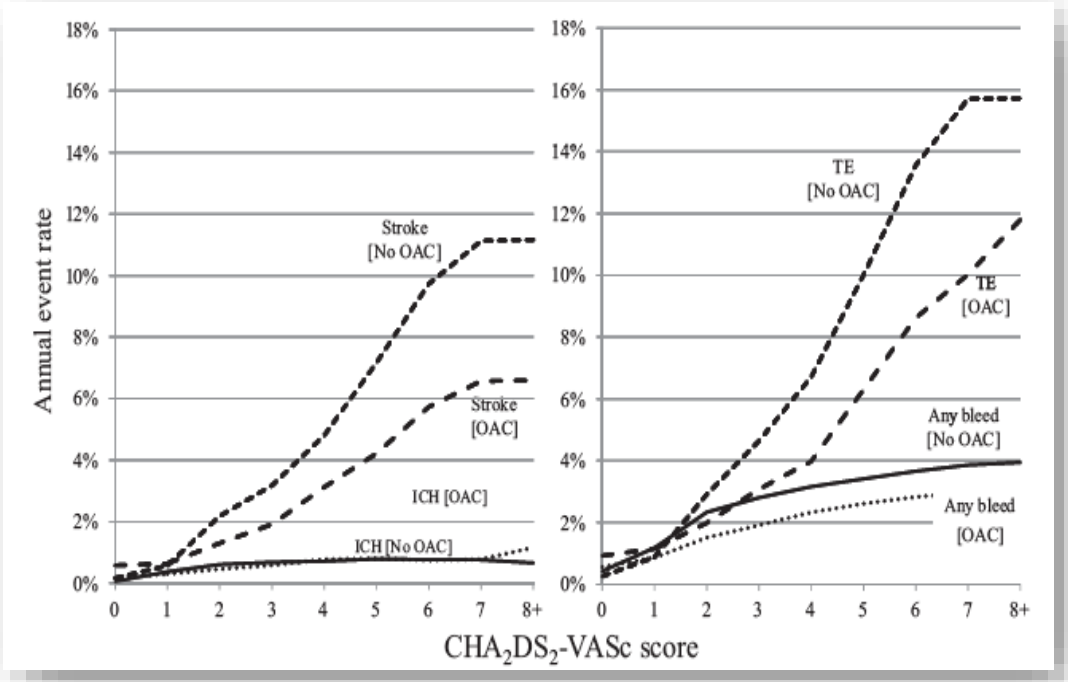
Warum keine OAK?

- **Ärztliche Gründe** gegen eine orale Antikoagulation:
- 30 Studien

Gründe	Prozent Ärzte
Blutungsrisiko oder Blutung in der Anamnese (GI, ICB)	24% - 100%
Sturzgefahr	65% - 100%
Hohes Alter	43% - 70%

Pugh et al., Age Ageing 2011

Das antizipierte Blutungsrisiko!



Friberg et al., Circulation. 2012;125:2298-2307

Potentially modifiable	Modifiable
Extreme frailty ± excessive risk of falls[a]	Hypertension/elevate SBP
Anaemia	Concomitant antiplatelet/NSAID
Reduced platelet count or function	Excessive alcohol intake
Renal impairment with CrCl <60 mL/min	Non-adherence to OAC
VKA management strategy[b]	Hazardous hobbies / occupations
	Bridging therapy with heparin
	INR control (target 2.0–3.0), target TTR >70%[c]
	Appropriate choice of OAC and correct dosing[d]

European Heart Journal 2021; 42: 373–498.

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Wie gut „fährt“ der Patient mit VKA?

Table 1 The SAME-TT_2R_2 Score

S	Sex (female)	1
A	Age (<60 years)	1
M	Medical history*	1
e		
T	Treatment (rhythm control strategy)	1
T	Tobacco use (within 2 years)	2
R	Race (non-Caucasian)	2

*Defined as more than 2 of the following: hypertension, diabetes, coronary artery disease/myocardial infarction, peripheral arterial disease, congestive heart failure, previous stroke, pulmonary disease, hepatic or renal disease.

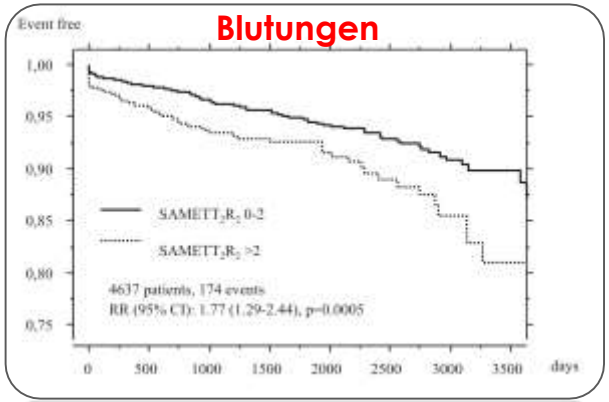
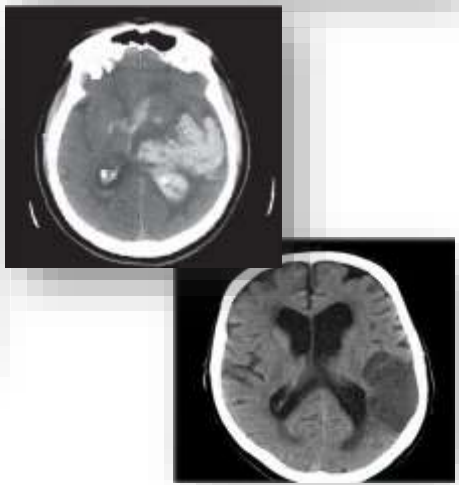


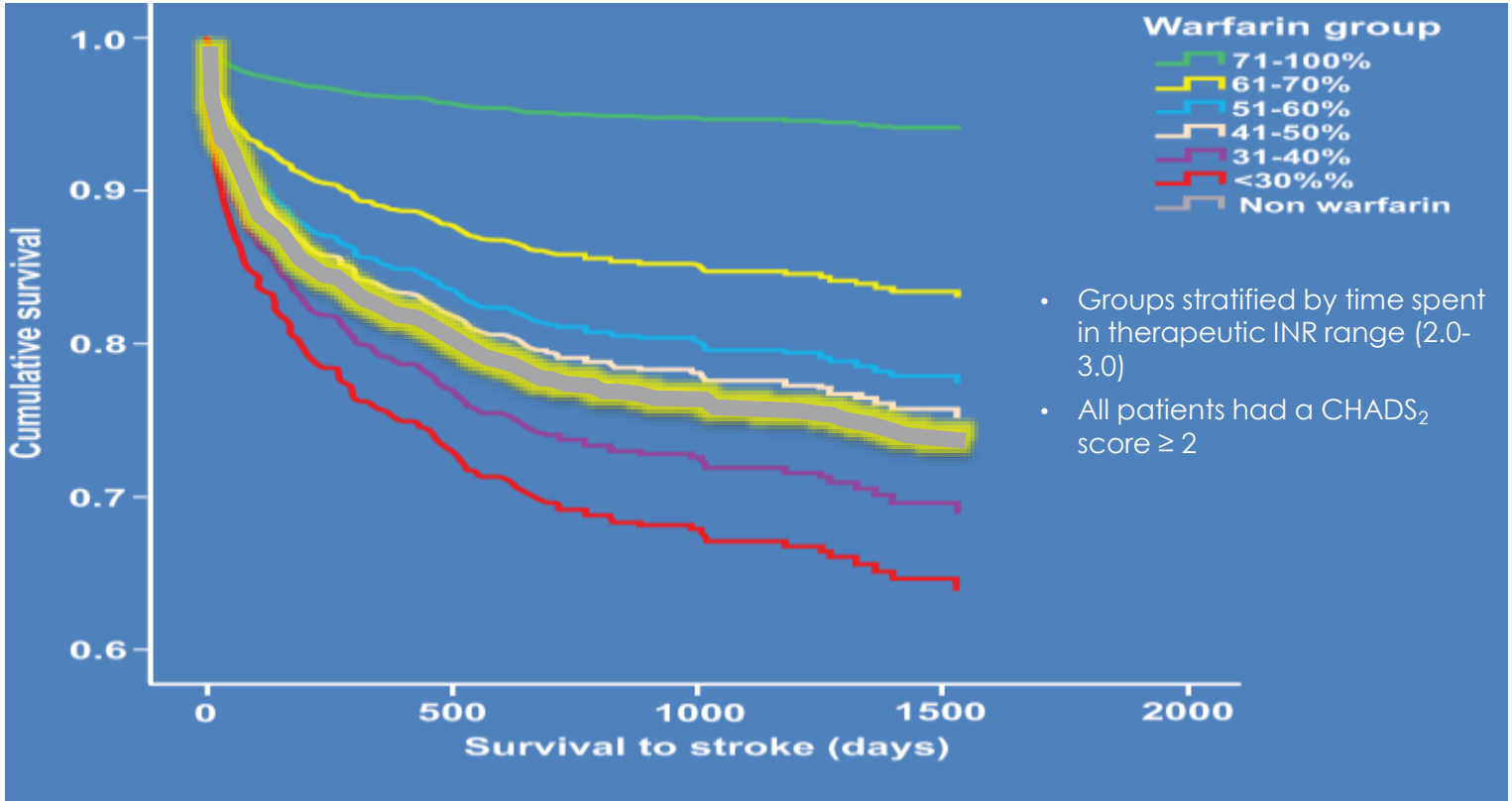
TABLE 2 Labile INR, Stroke/TE, Clinically Relevant Bleeding, and Mortality by Category of SAMe-TT_2R_2 Score

Variable	Whole Cohort	SAMe-TT_2R_2 Score			*P* Value
		0-1 (Low)	2 (Borderline)	>2 (High)	
No. patients		4,504 (55)	2,252 (28)	1,364 (17)	...
Labile INR	172 (2.1)	77 (1.7)	52 (2.3)	43 (3.2)	.004
		Ref	1.36 (0.95-1.94)	1.87 (1.28-2.73)	...



CHEST 2013; 144(5):1555–1563.
CHEST 2014; 146(3):719-726.
The American Journal of Medicine (2014) 127, 1083-1088.

VKA: Time Spent in Therapeutic INR Range (TTR)



- Groups stratified by time spent in therapeutic INR range (2.0-3.0)
- All patients had a $CHADS_2$ score ≥ 2

Morgan et al., Thromb Res 2009;124:37-41.

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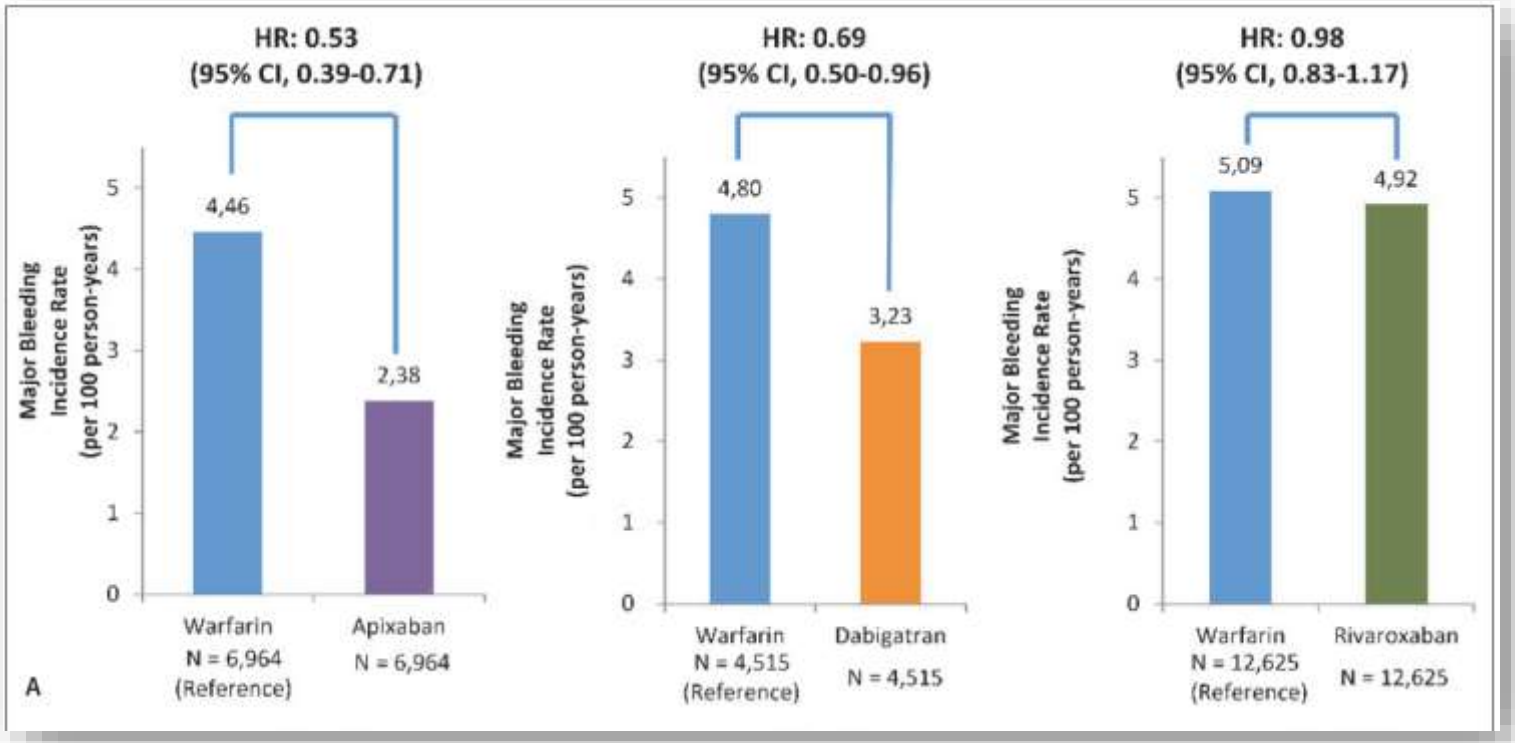
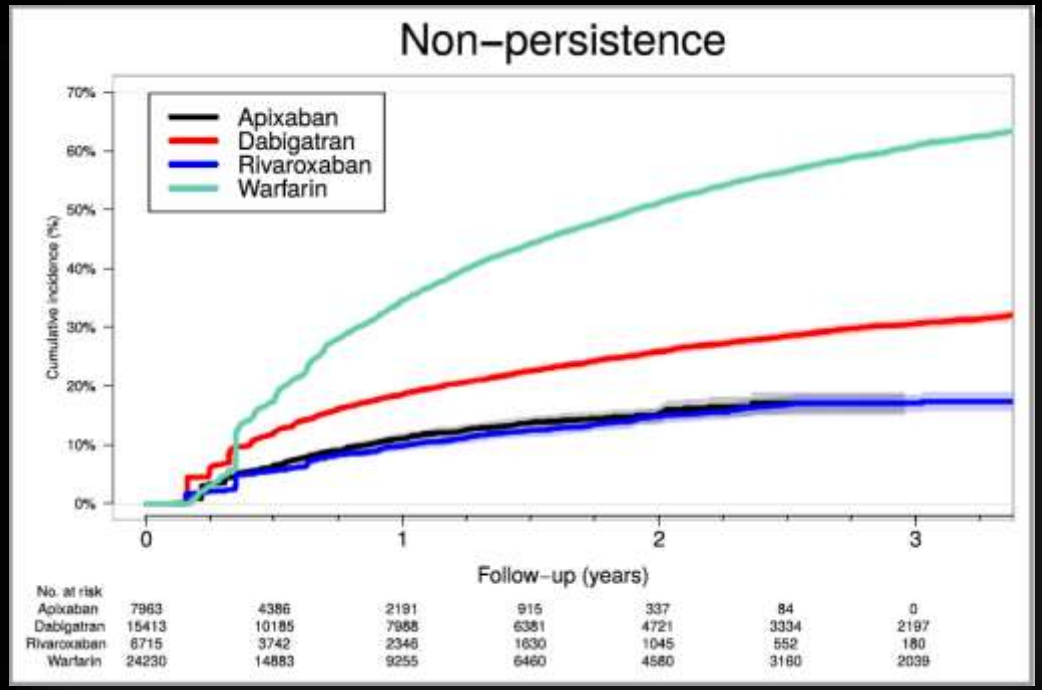
NOACs sind sicherer !



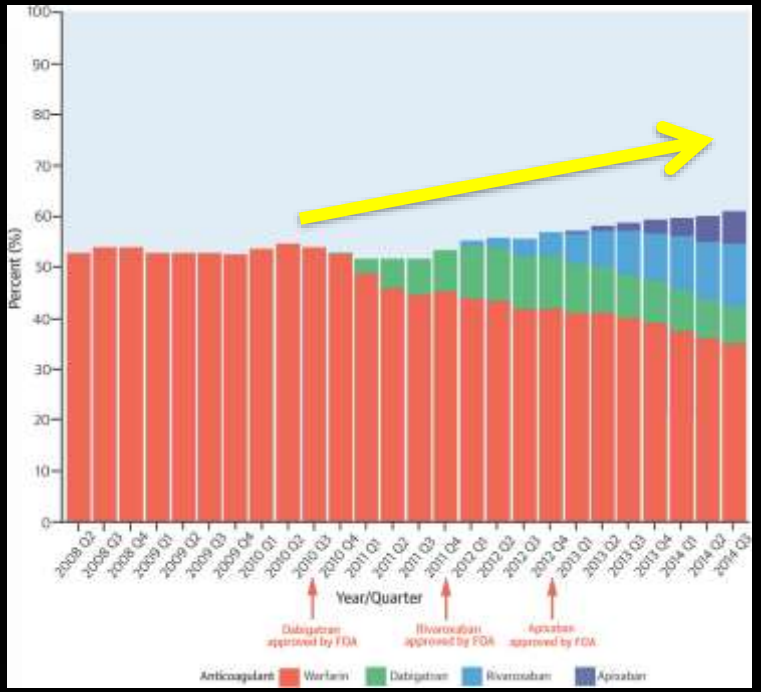
Lip et al, Thromb Haemost 2016; 116: 975–986.

Disclaimer: „Es existieren keine direkten Vergleichsstudien/RCTs der NOACs, daher sollten hier keine direkten Vergleiche vorgenommen werden."

NOACS verbessern die Versorgung!



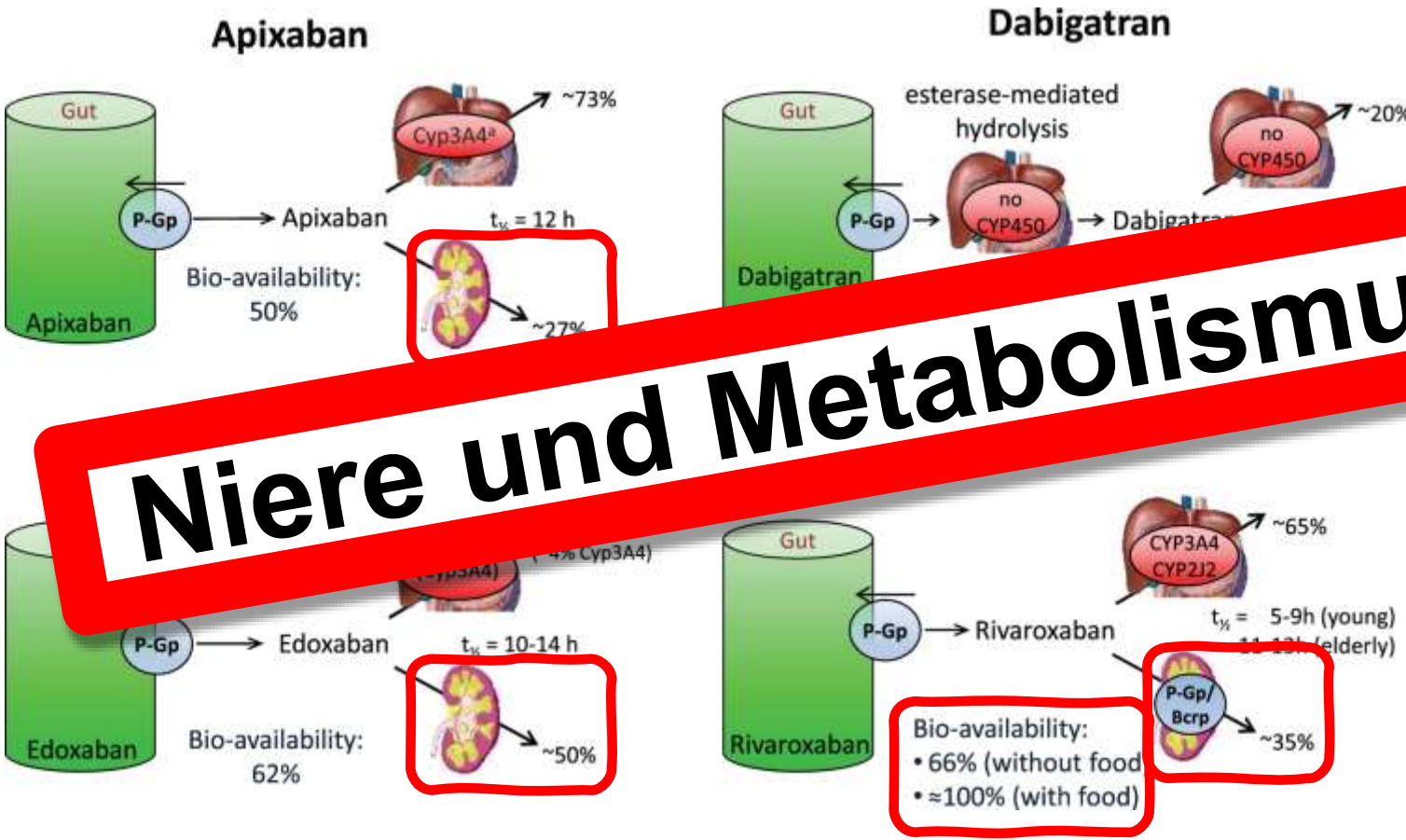
Lamberts et al J Am Heart Assoc. 2017;6:e004517.



Marzec, L.N. et al. J Am Coll Cardiol. 2017;69(20):2475–84.

Gibt es Unterschiede?

Pharmakologische Charakteristika der NOAK

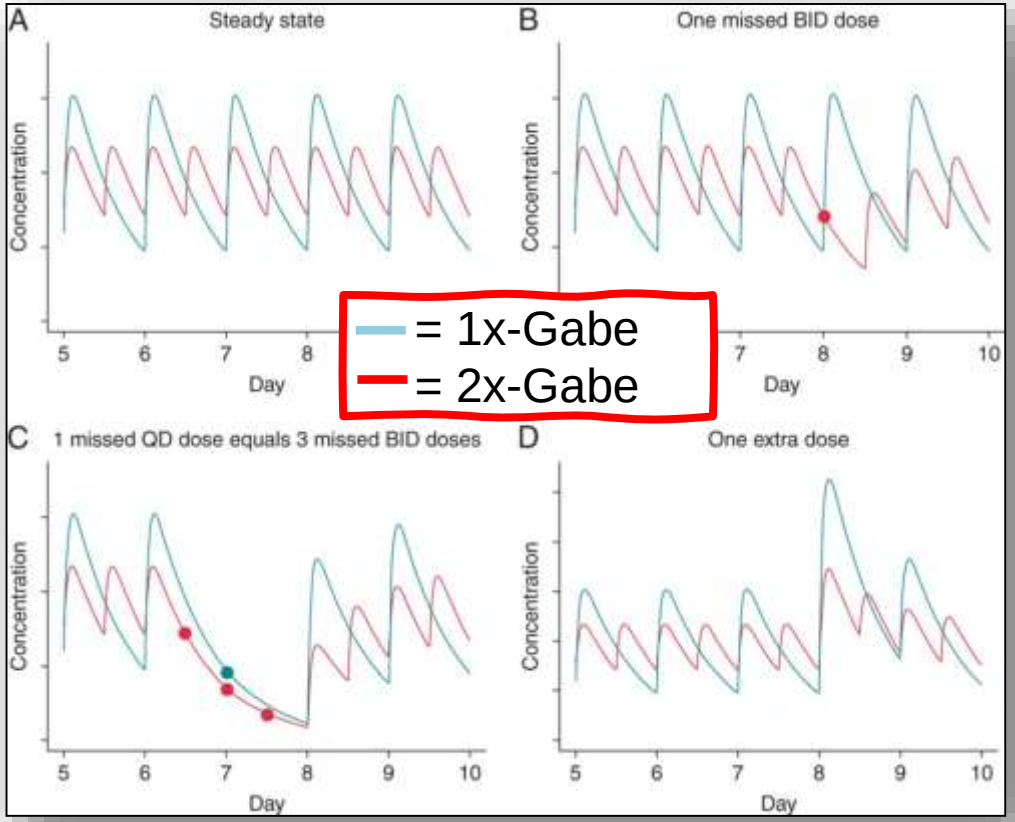


WATCH OUT

Niere und Metabolismus!

Europace 2021, euab065, https://doi.org/10.1093/europace/euab065

Tablette vergessen oder zuviel?



Europace. 2015;17(4):514-523.

VERGESSEN?

Nachträglich einnehmen bei

2x tgl. Einnahme <6h

1x tgl. Einnahme <12h

ZUVIEL?

2x tgl. Einnahme

1 Dosis auslassen!

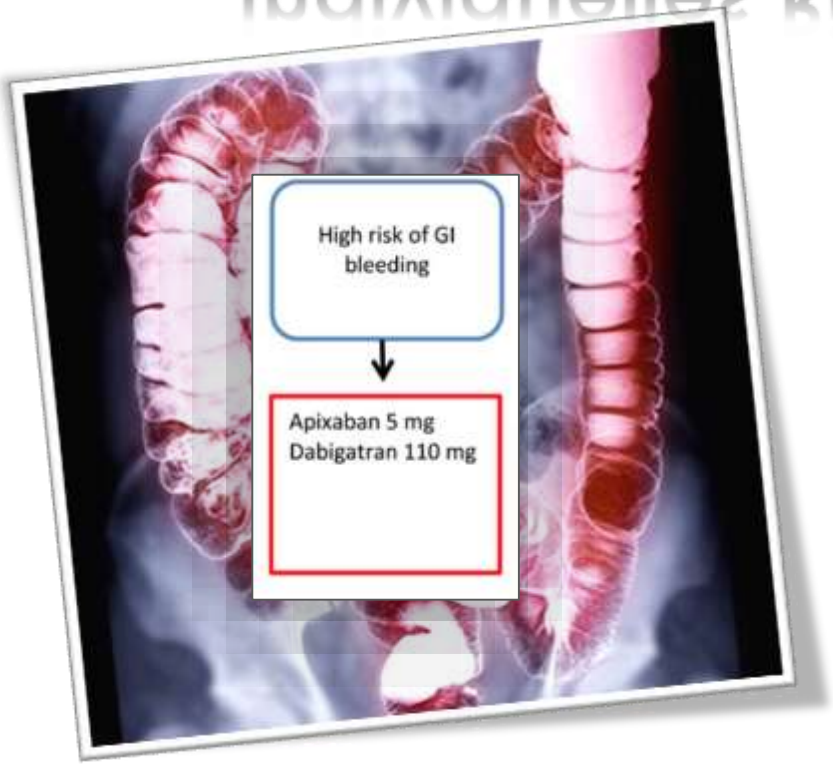
1x tgl. Einnahme

übliches Intervall fortfahren!

Europace 2021, https://doi.org/10.1093/europace/euab065

Eduardus-Krankenhaus Köln

Individuelles Risiko



Diener et al. European Heart Journal 2016
doi:10.1093/eurheartj/ehw069

	Event Rate per 100 person-years		Hazard Ratio (95% CI)	p value
	Apixaban vs. Warfarin			
	n=7,695	n=7,695		
Major Bleeding	2.33	4.46	0.45 (0.34 – 0.59)	<0.001
Intracranial	0.29	1.06	0.24 (0.12 – 0.50)	<0.001
Gastrointestinal	1.78	3.04	0.51 (0.37 – 0.70)	<0.001
	Dabigatran vs. Warfarin			
	n=14,307	n=14,307		
Major Bleeding	2.37	3.03	0.79 (0.67 – 0.94)	<0.01
Intracranial	0.28	0.79	0.36 (0.23 – 0.56)	<0.001
Gastrointestinal	1.97	1.95	1.03 (0.84 – 1.26)	0.78
	Rivaroxaban vs. Warfarin			
	n=16,175	n=16,175		
Major Bleeding	4.04	3.64	1.04 (0.90 – 1.20)	0.60
Intracranial	0.44	0.79	0.51 (0.35 – 0.75)	<0.001
Gastrointestinal	3.26	2.53	1.21 (1.02 – 1.43)	0.03

Favor NOAC 1.0 Favor Warfarin

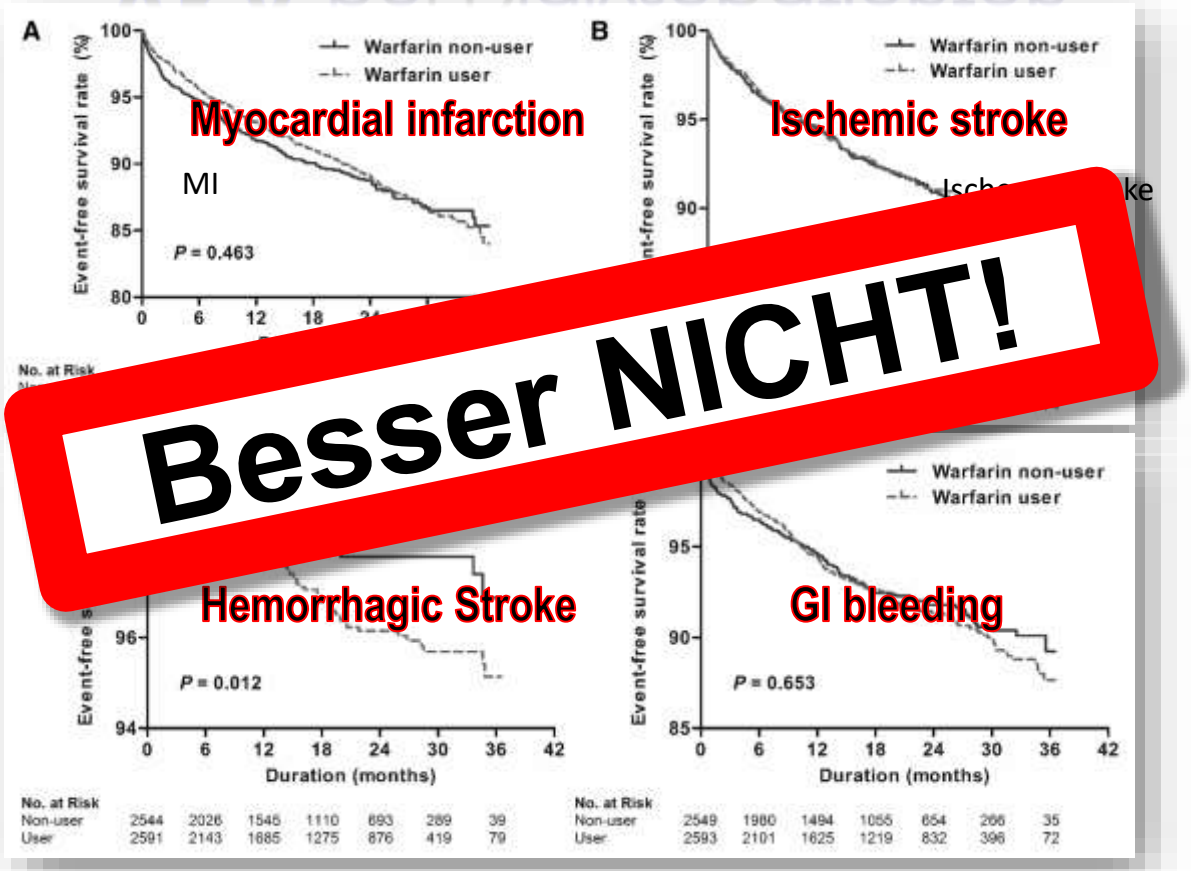
Yao X. et al, J Am Heart Assoc. 2016 Jun 13;5(6).

Disclaimer: „Es existieren keine direkten Vergleichsstudien/RCTs der NOACs, daher sollten hier keine direkten Vergleiche vorgenommen werden."

Caveats & Don’ts!

Eduardus-Krankenhaus Köln

VKA bei Dialysepatienten

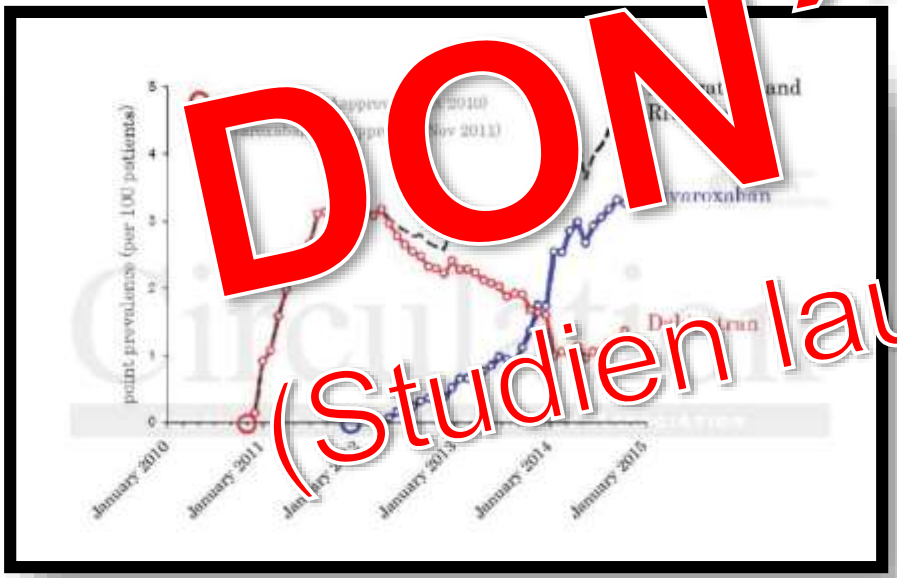


Besser NICHT!

Stroke. 2017;48:2472-2479.

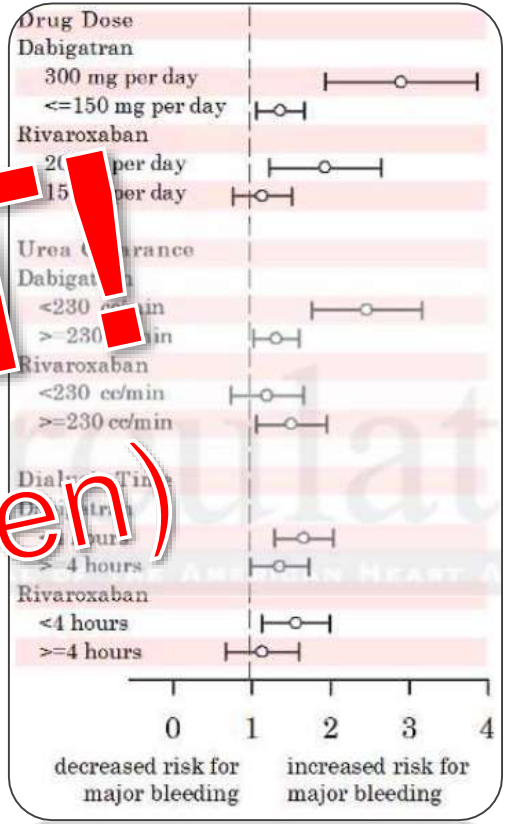
Eduardus-Krankenhaus Köln

NOAC & Dialyse



DON´T!

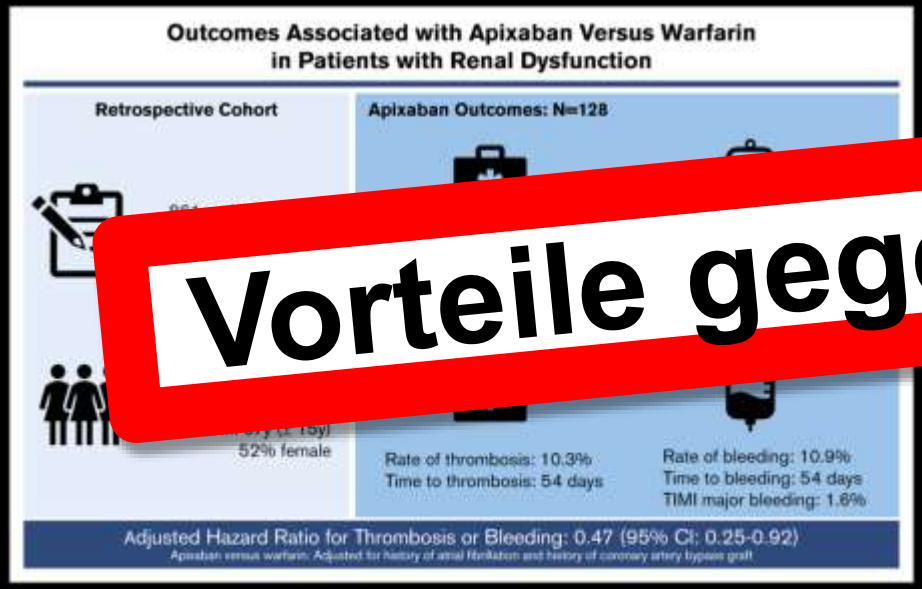
(Studien laufen)

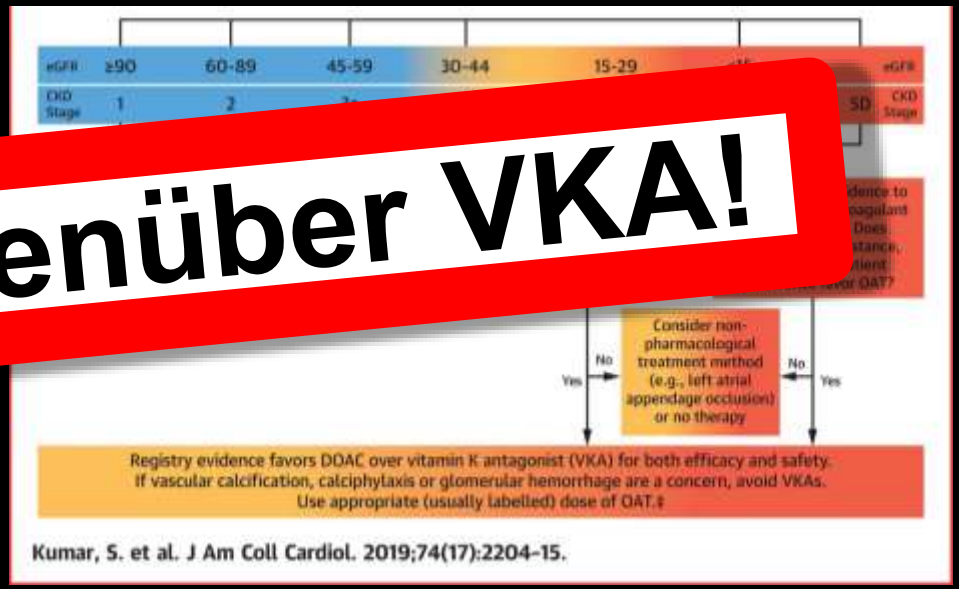


Circulation 2015, DOI: 10.1161/CIRCULATIONAHA.114.014113

(N)OAK bei Niereninsuffizienz!

(GFR>15ml/min)



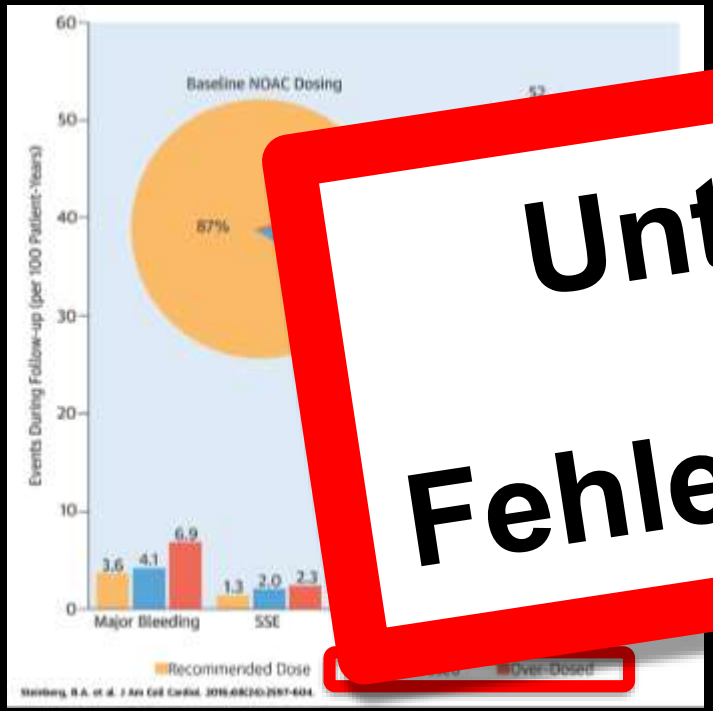


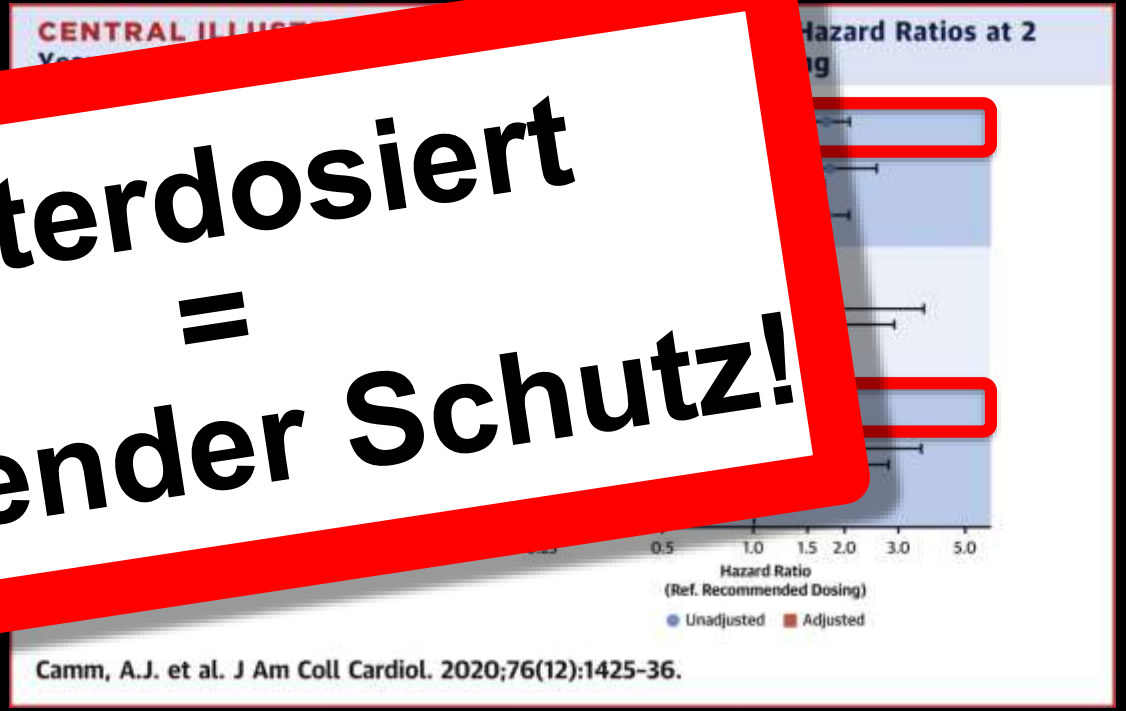
Vorteile gegenüber VKA!

Blood Adv (2020) 4 (11): 2366–2371.

Disclaimer: „Die Anwendung von Apixaban wird bei einer CrCl unter 15 ml/min nicht empfohlen

Immer die “richtige” Dosis!



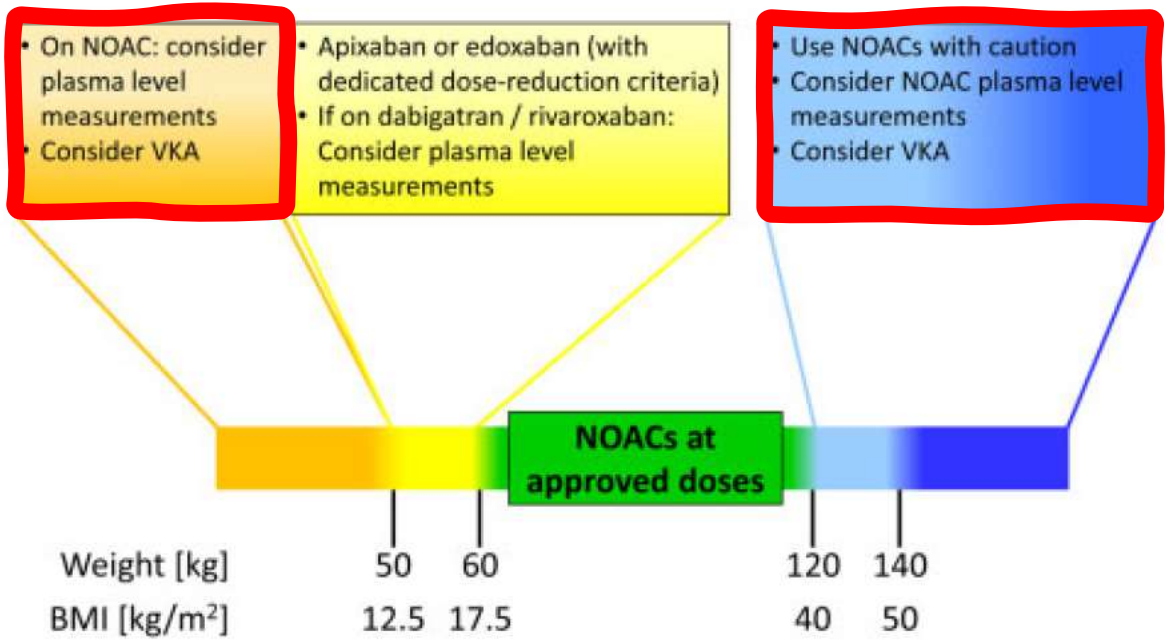


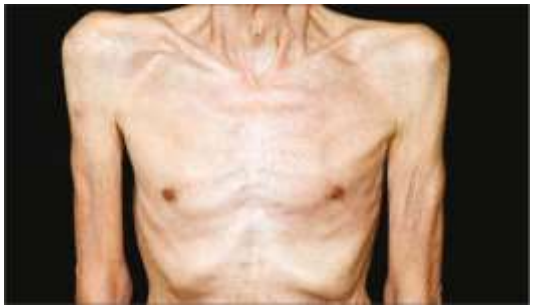
Unterdosiert
=
Fehlender Schutz!

SITUATIONAL AWARENESS

SOME LESSONS CAN ONLY BE LEARNED ONCE!

Extreme Konstitution?

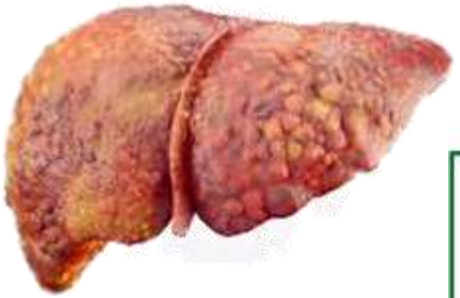




Europace 2021, euab065, https://doi.org/10.1093/europace/euab065

“Leberinsuffizienz”

…. Wie definieren?



Baseline assessment:

- H/o thromboembolism or bleeding?
- Relevant co-medications and over-the-counter drugs?
- CBC, liver function test, PT/INR, aPTT, renal function
- High bleeding risk (e.g., H/o major bleeding (varices), uncontrolled alcohol intake, etc.)?

Highest risk patients → Consider no anticoagulation / evaluate alternative stroke prevention strategy

All other patients

Parameter	1 point	2 points	3 points
Encephalo-pathy	No	Grade 1-2	Grade 3-4
Ascites	No	Mild	≥ Moderate
Bilirubin	< 2 mg/dL < 34 µmol/L	2-3 mg/dL 34-50 µmol/L	> 3 mg/dL > 50 µmol/L
Albumin	> 3.5 g/dL > 35 g/L	2.8-3.5 g/dL 28-35 g/L	< 2.8 g/dL < 28 g/dL
INR	< 1.7	1.71-2.30	>2.30

NOAC Use recommendations in liver disease

	A (<7 pts)	B (7-9 pts)	C (>9 pts)
Dabigatran	Normal dose	Use with caution	Not recommended
Apixaban			
Edoxaban			
Rivaroxaban		Not recommended	

- ✓ Assess Child-Pugh score
- ✓ Check NOAC use recommendations in liver disease
- ✓ Check for drug-drug interactions
- ✓ Discuss in multidisciplinary team

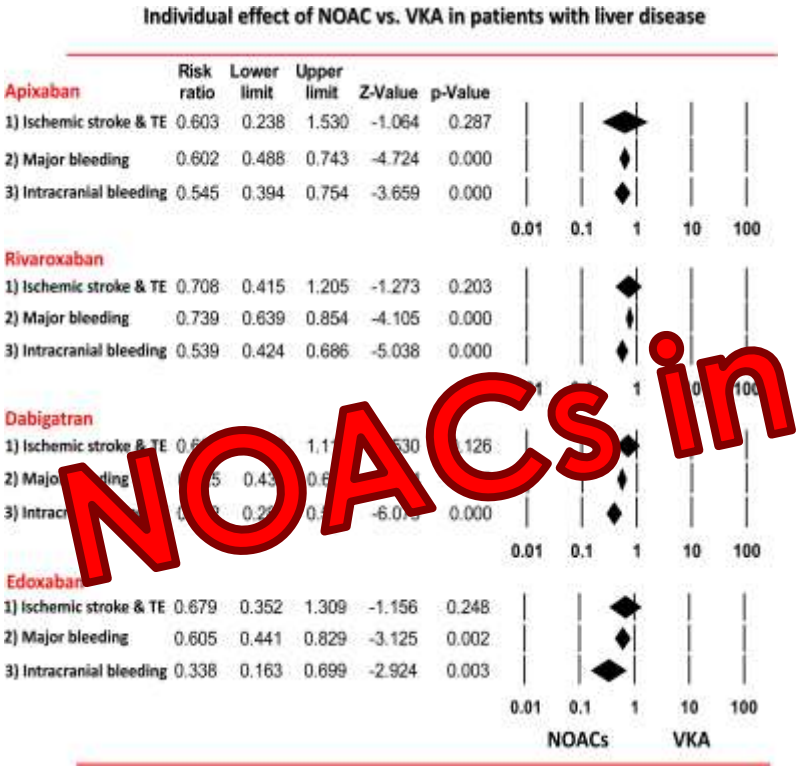
Close follow-up (see also Fig. 3)

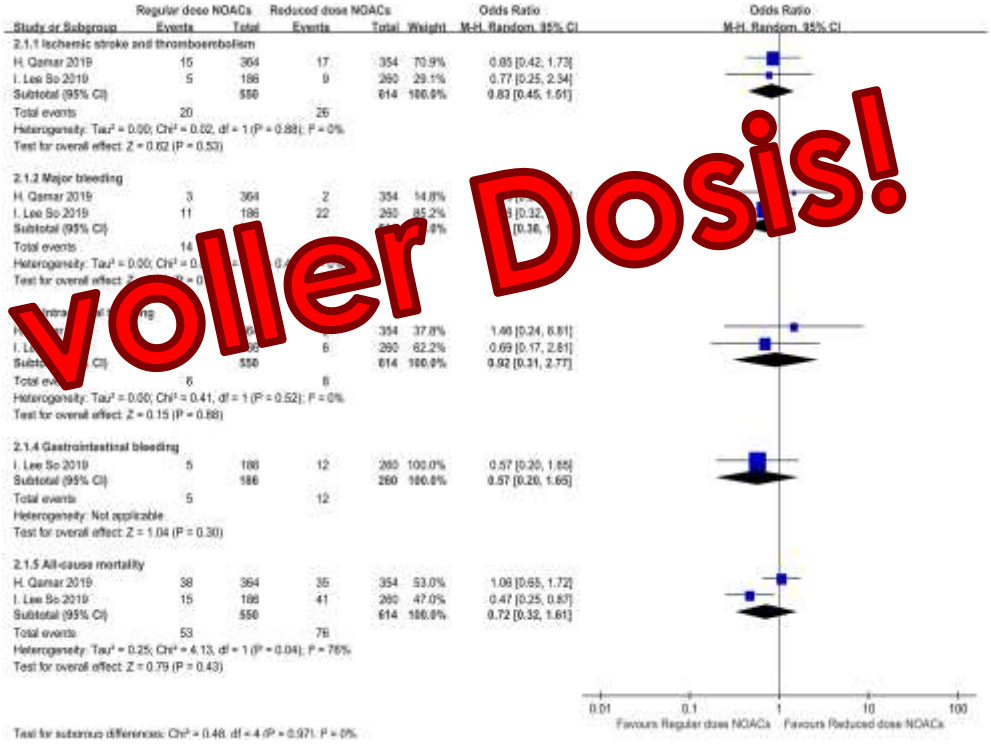
- Signs of (occult) bleeding?
- Adherence? Side effects?
- (New) co-medications, incl. NSAIDs, aspirin, OTC?
- CBC, liver function, PT/INR, aPTT, renal function
- Continue bleeding risk minimization strategies
- Re-enforce education, incl. alcohol abstinence

Europace 2021, euab065, https://doi.org/10.1093/europace/euab065

Disclaimer: „Fachinfo Apixaban: Bei Patienten mit leichter oder mäßiger Leberfunktionsstörung (Child-Pugh A oder B): Apixaban kann mit Vorsicht angewendet werden; Dosisanpassung nicht erforderlich. .“

“Leberinsuffizienz”





NOACs in voller Dosis!

Eur Heart J Cardiovasc Pharmacother, pvab032, https://doi.org/10.1093/ehjcvp/pvab032

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