



Renal function monitoring in patients prescribed Dabigatran

**Quality Improvement Audit
by Compass Health PHO**

Dr Lynn Mc Bain
and Anna Kyle
Conference for General Practice
July 2017

Compass Health PHO

- 62 General Practices across Capital & Coast and Wairarapa DHBs
- 331 General Practitioners
- 211 Practice Nurses
- 317,017 registered patients

Clinical Governance

- Clinical Quality Board CQB
- Oversee Quality in General Practice
- Priority focus:
 - Advocate for positive attitudes/ values re safety/ quality improvement.
 - Plan/ organise governance approaches for safety and quality, including contractual and compliance aspects, reducing inequalities, performance management with clear expectations and standards.
 - Harness/ use data and evidence to make quality/ safety visible.
 - Sponsor a patient focus constantly and work to meet the changing needs of our population

Quality improvement

First Quality Audit across an entire PHO

- Mandate from PHO Clinical Quality Board
- Clear criteria for measurement/ recording
- Able to be coordinated by Practice Staff
- Practice support by PHO Pharmacists
- Supported by PHO Quality and Clinical teams

Dabigatran

Novel Oral Anticoagulant (NOAC)
A new class of medication

2011 first available to primary care in NZ for:

- Stroke/ embolism prevention (non valvular AF)
- VTE prophylaxis major ortho surgery
- Prevention/ treatment DVT or PE (2014)
- Not a substitute for warfarin in all cases

Clear guidelines for dosing and monitoring

*Reversal now possible - Idarucizumab (Praxbind®) 2x
50mg/ml (50ml)=\$4250*

Renal Function and monitoring

- Excreted renally, low bioavailability (ADE risk)
- Changes over time/ increasing age/ frailty
- Important to dose according to CrCl (ml/ min)
 - 150mg BD or
 - 110mg BD if CrCl 30-50ml/min or ≥80yrs (recomm)
 - **Contraindicated** if CrCl < 30 ml /min

	CrCl (ml/ min)	eGFR (ml/min/1.73m ²)
Renal function	Close to actual but can underestimate	“Normalised” estimate, not accurate if >60 ml/ min. Overestimates in some patients
Limitations	Need height, weight, and S Creatinine	Body size extremes, muscle mass, diet, not validated in Māori, Pacific or Asian pop. Acute changes in kidney function, less than 18yrs
Dose Adjustment	Recommended	No

Method for Quality Audit

- Modified Bpac MOPS audit
- Invitation to all Practices/ assistance if reqd
- Query Build instructions to identify patients
- Result template provided

NHI	Age (yrs)	Gender	Ethnicity	GP	Strength (mg)	SIGs	Indication	Height (cm)	Weight (kg)	S Creatinine (mmol/ L)	eGFR (ml/ min/ 1.73m ²)	Calc CrCl (ml/ min)	Renal fxn check last 12 mths Yes/ No	Comment
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- Results collated by PHO Pharmacists

Results for All Patients	First Cycle 2011		Second Cycle 2016	
Total no. Practices (nil pts)	57	(2)	56	(3)
Total no. patients Rx-ed	941	<i>417</i> (>75)	1564	(66% ↑) <i>657</i> (>75)
Ethnicity Māori (9.5%)	7.6%		7.4%	
Ethnicity Pacific (4.9%)	2.0%		2.4%	
Ethnicity European (71.5%)	76.4%		84.4%	
Ethnicity Unknown (0.7%)	11.2%		2.8%	
Approved Indication	95%	100%	96%	100%
Unapproved Indication	0.96%	<0.5%	0.21%	<0.5%
Indication not recorded	3.5%	2.9%	0.7%	<0.5%
Annual Weight	73.5%	73.1%	79.9%	88%
Height (ever)	66.3%	75.1%	81.4%	86.5%
Annual S Creatinine	87.8%	93.3%	90.0%	97%
Calculated CrCl (ml/ min)	66.3%	68.1%	70.2%	76.1%
Appropriate Dose	73.6%	81.1%	80.1%	76.9%
Inappropriate Dose*	18%	18.9%	16.9%	17%
Contraindicated	1.8%	2.4%	0.02%	3.7%

* age, renal function (dose ↑ or ↓) , once daily dose, 75mg dose

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Practices checking renal function

	First Cycle 57 practices	Second Cycle 56 practices
Renal function checked	N = 941	N = 1564
≥ 90% patients	32 practices (54%)	33 practices (62%)
80-89% patients	11 practices (30%) 84%	14 practices (29%) 91%
70-79% patients	4 practices (7.4%) 91.4%	7 practices (6.6%) 97.7%
<69% patients	9 practices (8.4%) 99.8%	3 practices (2%) 99.7%

Implications/ findings

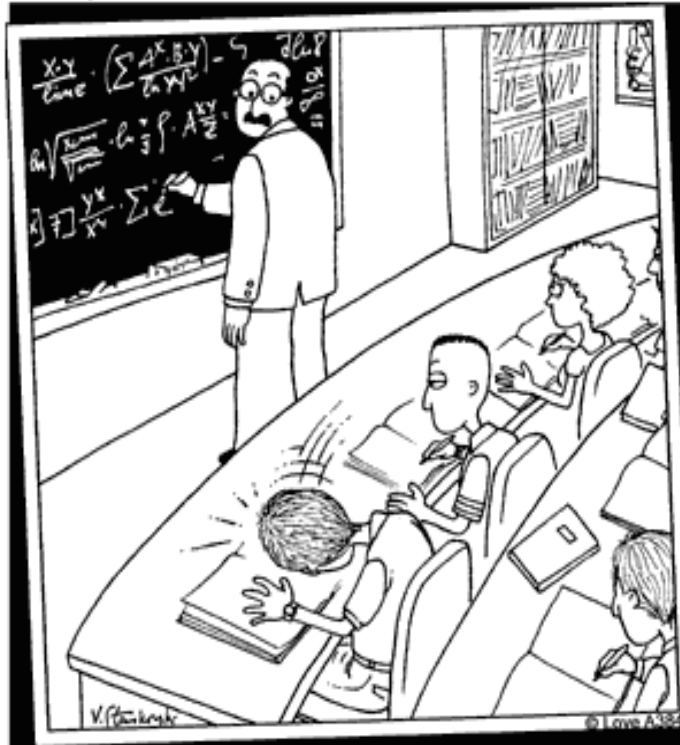
- 66% increase in patients on dabigatran
- 90% annual renal checks - best practice
- Few potential interactions
 - Amiodarone, verapamil, NSAIDs, concomitant antiplatelet (usually accidental), SSRIs
- Small amount of unapproved use/ dose
 - Specialist initiated,
 - OD in CrCl < 30 ml/min,
 - 75mg BD in AF

Future recommendations

- Set up good recalls/ alert protocols
- Maintain good monitoring protocols
Practice champion, all staff
- Record height and annual weight
- Calculate CrCl (ml/ min) to allow dose adjustments for a number of medications
- Continue PHO Quality Improvement

Thank you

Snapshots at jasonlove.com



Professor Herman stopped when he heard that unmistakable thud – another brain had imploded.

