

South West RTC

A thick blue wavy line that spans the width of the slide, starting at a medium height on the left, dipping into a shallow valley in the center, and then rising to a higher peak on the right.

2015 Audit of Patient Blood Management in adults undergoing surgery

Aim – to assess Patient Blood Management

**Method - Identify patients admitted &
transfused Feb, March, April 2015 for 14
selected surgical procedures**

Sample size: 3897 patients from 190 centres

Number of patients audited	
National	3897
Derriford Hospital	41
Dorset County Hospital NHS Foundation Trust	5
Gloucestershire Hospitals NHS Foundation Trust	55
Great Western Hospitals NHS Foundation Trust	32
North Bristol NHS Trust	32
Northern Devon Healthcare NHS Trust	9
Nuffield Cheltenham Hospital	9
Poole Hospital	18
Ramsay Duchy	4
Royal Devon & Exeter Hospital	38
Royal United Hospital	40
Salisbury NHS Foundation Trust	7
Torbay and South Devon NHS Foundation Trust	29
Spire Bristol Hospital	10
Taunton & Somerset Hospital	13
The Royal Bournemouth & Christchurch Hospitals NHS Foundation Trust	23
University Hospitals Bristol NHS Foundation Trust	37
Weston Area Health NHS Trust	13
Yeovil District Hospital NHS Foundation Trust	18

Type of surgical procedure audited

[illegible]

2015 PBM Audit & AFFINITIE

- For the purposes of supporting the AFFINITIE trial, the National Comparative Audit Steering Group agreed that there would be 2 versions of the audit report
- This slideshow is based on the “Standard” report, which may present the data in a different way than shown in your report, depending on which version you were randomly allocated to receive by the trial co-ordinators
- The data used in both reports is identical, but presentation of those data will vary

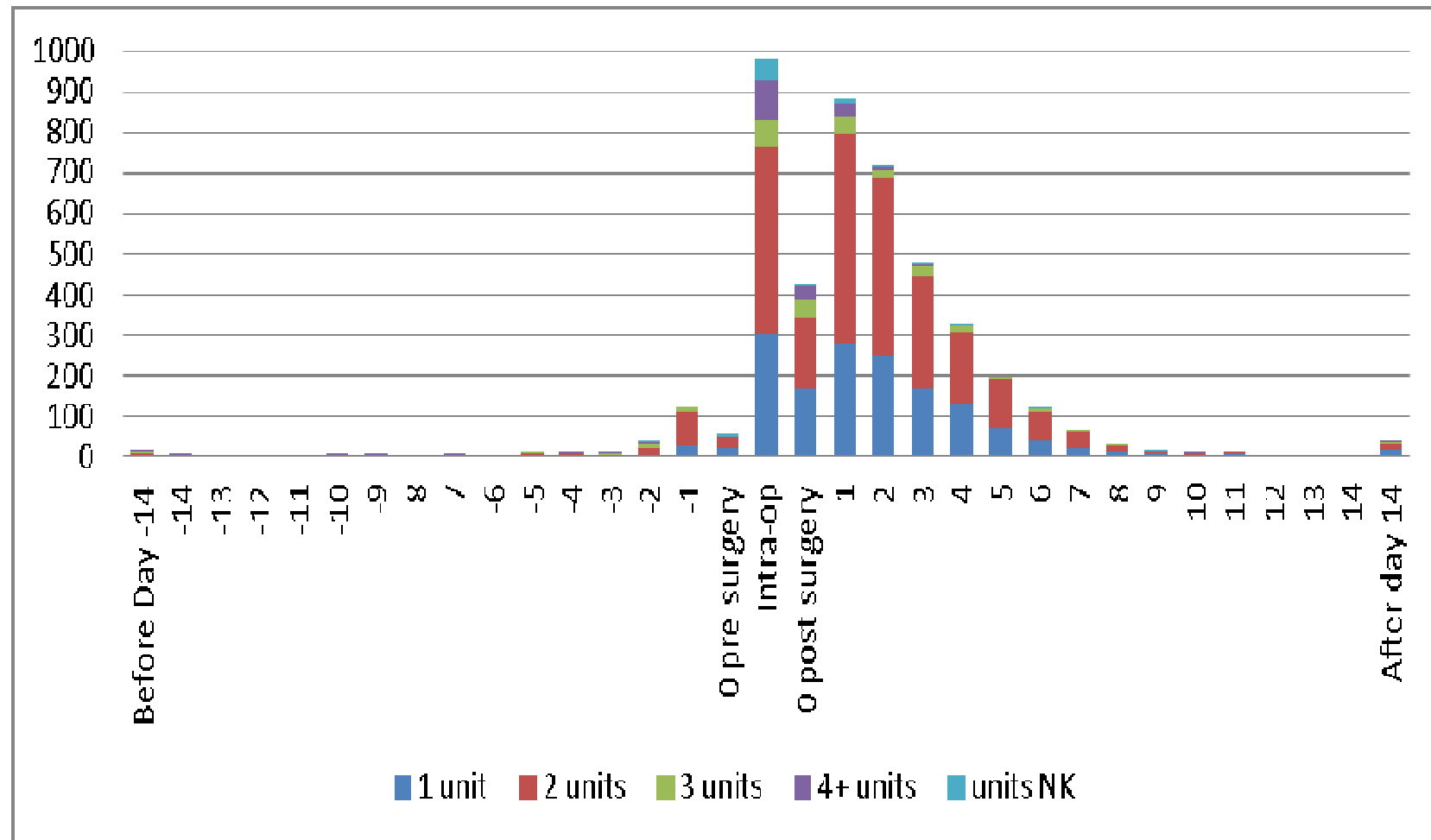
Eleven **PBM audit algorithms** were developed to assess appropriateness of practice

PBM1	Pre-operative anaemia management
PBM2	Pre-operative transfusion allowed
PBM3	Pre-operative transfusion allowed only if preoperative anaemia optimisation has been attempted where appropriate
PBM4	Pre-operative transfusion - single unit transfusion policy
PBM5	Pre-operative anticoagulant and antiplatelet management
PBM6	Patients having intra operative transfusion in whom at least one PBM measure has been attempted (where appropriate)
PBM7	Patients having intra operative transfusion in whom all PBM measures have been attempted (where appropriate)
PBM8	Post operative transfusion allowed (whether or not PBM measures attempted) - FIRST EPISODE
PBM9	Post operative transfusion following the single unit policy – FIRST EPISODE
PBM10	Post operative in whom at least one PBM measure has been attempted (where appropriate) - FIRST EPISODE
PBM11	Post operative in whom all PBM measures have been attempted (where appropriate) - FIRST EPISODE

PBM audit algorithms: Overall % performance

Algorithm	National % standard MET*	Derriford Hospital	Dorset County	Gloucestershire	Great Western	North Bristol	Northern Devon	Nuffield Cheltenham	Poole	Ramsay Duchy	Royal Devon & Ex	Royal United	Salisbury	Torbay & S Devon	Spire Bristol	Taunton	Royal Bournemouth	Uni Hosps Bristol	Weston	Yeovil
PBM1	46%	46	25	15	65	63	67	56	5	75	65	56	86	55	22	77	Data not available	26	78	17
PBM2	12%											33								2
PBM3	2%																			
PBM4	28%	1		67					1									5		2
PBM5	63%	22	1	5	5	67	1	1	1	1	1	67		1	1	1		75		5
PBM6	83%	1		5	1	1	1	5	5	1	1	57	1	1	1	1		1		1
PBM7	16%	5			25						25	29				2		43		
PBM8	24%	18	6	8	19	24		29	25	33	31	15	5	67	2	22		12	8	7
PBM9	38%	81	6	15	21	32	2	17	53	67	11	56	5		5			54	18	21
PBM10	85%	97	75	1	84	78	1	67	75	1	92	75	1	83	1	1		82	78	1
PBM11	8%	27			5	6			25		25	38	4			44		18		25

Summary of pre-op, intra op and post- op Red Blood Cell Transfusions (including no. of units transfused)



When and why does transfusion occur

- Preoperation
 - Anaemia managed by blood transfusion 7% of patients
 - Decision to transfusion rarely by anaesthetist - 13%
 - Average Hb of 82g/L, single unit transfusion only 20%
- Intra-operation
 - Transfusion 25% patients, predominantly by anaesthetists
 - Transfusion preceded by blood test 70% of cases (91% near patient testing) during the hour before transfusion
- Post-operation
 - 74% of patients transfused first 7 days post-op
 - Only 24% below threshold Hb
 - Of patients transfused at 1st episode, only 31% single unit, majority (61%) two unit transfusions

Pre-operative assessment

Patients who had pre-op assessment	n patients for whom information available	n assessed	% assessed
National	2818	2446	87%
Derriford Hospital	41	40	98
Dorset County Hospital NHS Foundation Trust	4	4	100
Gloucestershire Hospitals NHS Foundation Trust	12	12	100
Great Western Hospitals NHS Foundation Trust	20	20	100
North Bristol NHS Trust	27	19	70
Northern Devon Healthcare NHS Trust	9	9	100
Nuffield Cheltenham Hospital	9	9	100
Poole Hospital	4	4	100
Ramsay Duchy	4	3	75
Royal Devon & Exeter Hospital	31	27	87
Royal United Hospital	9	8	89
Salisbury NHS Foundation Trust	7	6	86
Torbay and South Devon NHS Foundation Trust	29	23	79
Spire Bristol Hospital	9	8	89
Taunton & Somerset Hospital	13	13	100
The Royal Bournemouth & Christchurch Hospitals NHS Foundation Trust	22	17	77
University Hospitals Bristol NHS Foundation Trust	23	18	78
Weston Area Health NHS Trust	9	8	89
Yeovil District Hospital NHS Foundation Trust	6	6	100

≥ 14 days pre-op assessment 46% women & 48% men anaemic

Immediately pre-op 58% anaemic

Pre-operative anticoagulant management

Oral anticoagulation in month prior to surgery	n on drugs	% on drugs	n stopped	n stopped ≤ 5 days pre-op
National	361/3890	9%	315/361 (87%)	139/287 (48%)
Derriford Hospital	8/41	20	4	2
Dorset County Hospital NHS Foundation Trust	2/5	40	2	2
Gloucestershire Hospitals NHS Foundation Trust	2/55	4	2	0
Great Western Hospitals NHS Foundation Trust	4/32	13	3	0
North Bristol NHS Trust	5/32	16	5	3
Northern Devon Healthcare NHS Trust	1/9	11	1	1
Nuffield Cheltenham Hospital	0/9	0		
Poole Hospital	1/18	6	1	0
Ramsay Duchy	2/4	50	2	2
Royal Devon & Exeter Hospital	3/38	8	3	2
Royal United Hospital	9/40	23	8	2
Salisbury NHS Foundation Trust	0/7	0		
Torbay and South Devon NHS Foundation Trust	1/29	3	1	1
Spire Bristol Hospital	1/10	10	1	1
Taunton & Somerset Hospital	1/13	8	1	1
The Royal Bournemouth & Christchurch Hospitals NHS Foundation Trust				
University Hospitals Bristol NHS Foundation Trust	2/37	5	1	0
Weston Area Health NHS Trust	1/13	8	1	
Yeovil District Hospital NHS Foundation Trust	2/18	11	2	0

Pre-operative antiplatelet management

Antiplatelet therapy in month prior to surgery	n on drugs	% on drugs	n stopped	n stopped ≤5 days pre-op
National	363/3890	9%	279/363 (77%)	149/261 (57%)
Derriford Hospital	3/41	7	2	1
Dorset County Hospital NHS Foundation Trust	0/5	0		
Gloucestershire Hospitals NHS Foundation Trust	1/55	2	1	1
Great Western Hospitals NHS Foundation Trust	1/32	3	0	
North Bristol NHS Trust	9/32	28	9	5
Northern Devon Healthcare NHS Trust	1/9	11	0	
Nuffield Cheltenham Hospital	1/9	11	1	1
Poole Hospital	4/18	22	0	
Ramsay Duchy	0/4	0		
Royal Devon & Exeter Hospital	1/38	3	1	1
Royal United Hospital	5/40	13	4	1
Salisbury NHS Foundation Trust	0/7	0		
South Devon Healthcare NHS Foundation Trust	2/29	7	2	2
Spire Bristol Hospital	0/10	0		
Taunton & Somerset Hospital	1/13	8	1	1
The Royal Bournemouth & Christchurch Hospitals NHS Foundation Trust				
University Hospitals Bristol NHS Foundation Trust	6/37	16	6	6
Weston Area Health NHS Trust	1/13	8	0	
Yeovil District Hospital NHS Foundation Trust	1/18	6	1	0

Tranexamic Acid used intra-operatively

Blood and Transplant

Tranexamic Acid used intra-operatively	n patients	%
National	1252/3805	33%
Derriford Hospital	31/41	76
Dorset County Hospital NHS Foundation Trust	2/5	40
Gloucestershire Hospitals NHS Foundation Trust	5/17	29
Great Western Hospitals NHS Foundation Trust	11/32	34
North Bristol NHS Trust	18/32	56
Northern Devon Healthcare NHS Trust	1/9	11
Nuffield Cheltenham Hospital	0/9	0
Poole Hospital	0/18	0
Ramsay Duchy	1/4	25
Royal Devon & Exeter Hospital	17/38	45
Royal United Hospital	9/40	23
Salisbury NHS Foundation Trust	4/7	57
Torbay and South Devon NHS Foundation Trust	12/27	44
Spire Bristol Hospital	0/10	0
Taunton & Somerset Hospital	6/13	46
The Royal Bournemouth & Christchurch Hospitals NHS Foundation Trust	3/23	13
University Hospitals Bristol NHS Foundation Trust	11/37	30
Weston Area Health NHS Trust	4/13	31
Yeovil District Hospital NHS Foundation Trust	3/18	17

Use of Intraoperative cell salvage

Use of Intra-operative cell salvage	n patients	%
National	521/3826	14%
Derriford Hospital	11/41	27
Dorset County Hospital NHS Foundation Trust	0/5	0
Gloucestershire Hospitals NHS Foundation Trust	1/17	6
Great Western Hospitals NHS Foundation Trust	0/32	0
North Bristol NHS Trust	2/32	6
Northern Devon Healthcare NHS Trust	0/9	0
Nuffield Cheltenham Hospital	0/9	0
Poole Hospital	0/18	0
Ramsay Duchy	1/4	25
Royal Devon & Exeter Hospital	13/38	34
Royal United Hospital	1/40	3
Salisbury NHS Foundation Trust	1/7	14
Torbay and South Devon NHS Foundation Trust	20/29	69
Spire Bristol Hospital	0/10	0
Taunton & Somerset Hospital	0/13	0
The Royal Bournemouth & Christchurch Hospitals NHS Foundation Trust		
University Hospitals Bristol NHS Foundation Trust	6/37	16
Weston Area Health NHS Trust	0/13	0
Yeovil District Hospital NHS Foundation Trust	0/18	0

Recommendations

- PBM needs clinical leadership & with multidisciplinary support
- Pre-operative management pathway/protocol
- Protocol for tranexamic acid, cell salvage, near patient haemostasis testing, management of major bleeding
- Consider restrictive transfusion threshold if no active bleeding
- Single unit transfusion policy should be standard practice
- Provide patients with information for valid transfusion consent
- Educate clinicians to ensure awareness PBM
- Audit of PBM practice, develop key performance indicators with benchmarking of practice.

Suggested surgical checklist

The 16 point Surgical Checklist

Sign in

1. Pre-operative haemoglobin within normal range
2. Consideration made of withholding antiplatelet and anticoagulant medication
3. Consideration of minimally invasive or laparoscopic technique
4. Point of care testing available
5. Discussion with patient regarding the above

Time out

6. Careful patient positioning to maintain venous drainage
7. Avoidance of hypothermia
8. Tranexamic acid 1g to all patients undergoing surgery where blood loss >500mls likely or possible
9. Use cell salvage if expected to lose a high volume of blood – set up collection reservoir and process if sufficient blood actually collected
10. Use of topical haemostatic agents
11. Haemorrhage protocols with triggers on use of red cells and components if needed

Sign out

12. Restrictive transfusion thresholds implemented (Hb 70-80 g/L depending upon patient characteristics and haemodynamics)
13. Maintain oxygen delivery targeting oxygen saturation levels >95%
14. Single unit blood transfusion policy – reassessing Hb level and clinical need between units
15. Post operative drain or cell salvage
16. Patient information and valid consent for transfusion (or retrospective information if emergency transfusion was needed during surgery)