Weqas
Unit 6, Parc Tŷ Glas
Llanishen, Cardiff, CF14 5DU

Tel: 02920 314750
Email: contact@weqas.com

EXTERNAL QUALITY ASSESSMENT

INTERNAL QUALITY CONTROL

REFERENCE MEASUREMENT SERVICES

EDUCATION & TRAINING

Weqas | GLOBAL PROVIDER OF QUALITY IN DIAGNOSTIC MEDICINE

Performance in Weqas Viscoelastic Haemostasis EQA Programme

Gareth Davies

Weqas Viscoelastic Haemostasis Programme

Frequency: 4 times per annum
Samples: 2 (3 mL)
Return Window: 3 weeks
Material: Two Lyophilized human citrated plasma samples (including those enriched with unfractionated Heparin)
Methods: Rotational Thromboelastometry (ROTEM) / Thromboelastometry (TEM) / Thromboelastography (TEG)
Key Features: Working in collaboration with ECAT. Covers the analytes Extem, Intem, Fibtem, Heptem and Aptem.

Analytes Covered

Viscoelastic Haemostasis Programme* - ROTEM / TEM	
Test	**Analyte**
Aptem	CFT (Secs), CT (Secs), A5 (mm), A10 (mm), A20 (mm), MCF (mm)
Extem	CFT (Secs), CT (Secs), A5 (mm), A10 (mm), A20 (mm), MCF (mm)
Fibtem	CFT (Secs), CT (Secs), A5 (mm), A10 (mm), A20 (mm), MCF (mm)
Heptem	CFT (Secs), CT (Secs), A5 (mm), A10 (mm), A20 (mm), MCF (mm)
Intem	CFT (Secs), CT (Secs), A5 (mm), A10 (mm), A20 (mm), MCF (mm)

Viscoelastic Haemostasis Programme* - TEG	
Test	**Analyte**
CFF	MA (mm)
CK	R (mins), K (mins), Angle (degrees), MA (mm)
CKH	R (mins), K (mins), Angle (degrees), MA (mm)
CRT	R (mins), K (mins), Angle (degrees), MA (mm), TEG-ACT

Samples Distributed

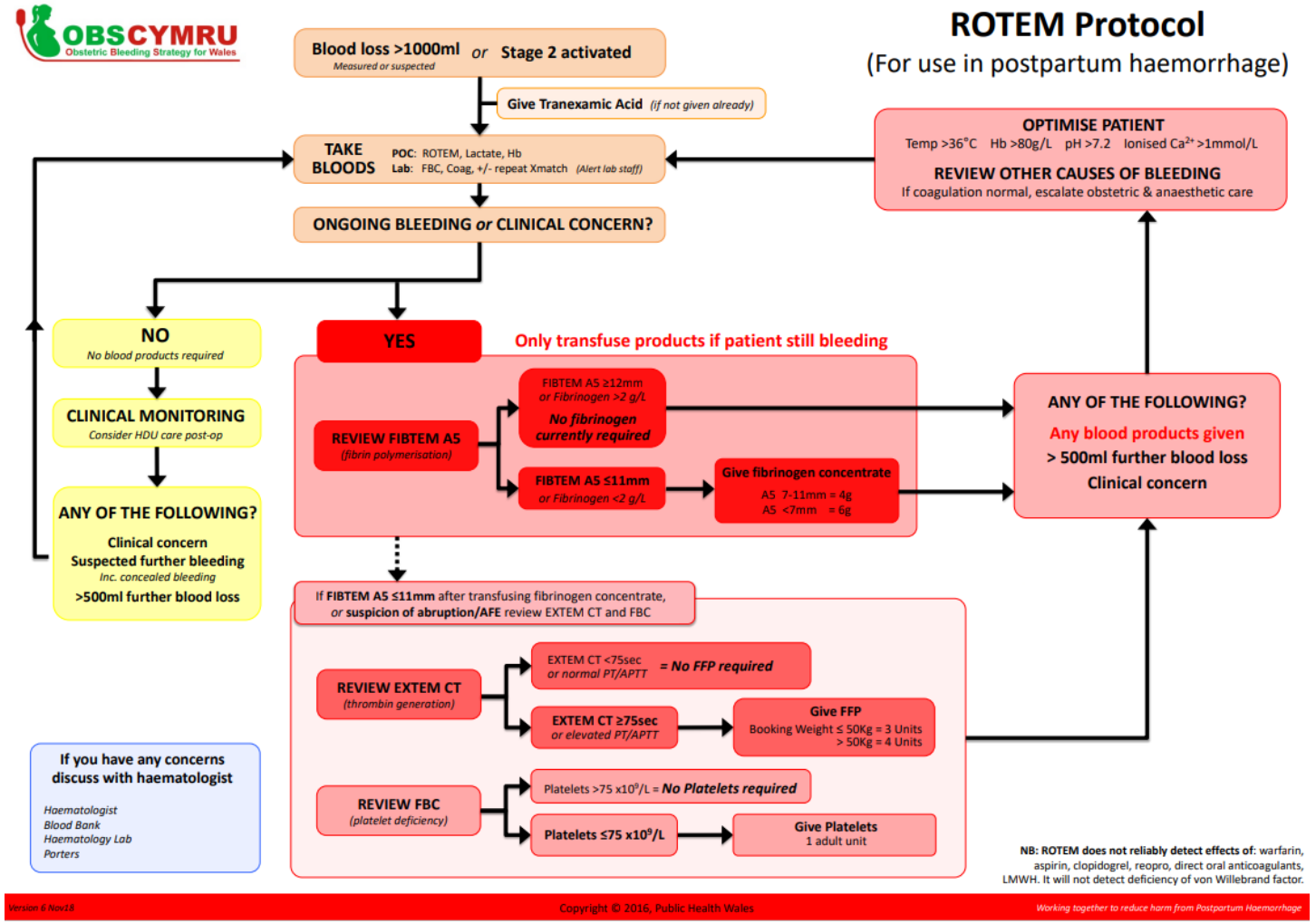
VH7	ECAT-486 Abnormal coagulation control plasma	ECAT-475 Normal coagulation control plasma
VH8	ECAT-524 UFH plasma 0.20-0.25 IU/mL	ECAT-521 Normal coagulation control plasma
VH9	ECAT-523 UFH plasma 0.20-0.25 IU/mL	ECAT-521 Normal coagulation control plasma
VH10	ECAT-521 Normal coagulation control plasma	ECAT-522 Abnormal coagulation control plasma
VH11	TEG-1 Normal coagulation control plasma	ECAT-521 Normal coagulation control plasma
VH0621	ECAT - 522 Abnormal	ECAT-521 Normal
VH0921	TEG-2 (21.169 / 21.171) Abnormal coagulation control plasma	TEG-1 (21.170 / 21.172) Normal coagulation control plasma
VH1121	TEG-4 (21.229 / 21.231) Abnormal	TEG-2 (21.230/ 21.232) Normal coagulation control plasma
VH0322	TEG-3 010322 Abnormal	TEG-2 010322 Normal
VH0622	TEG-2 190522 Normal	TEG-8 190522 Spiked with 75 ng/ml t-PA
VH0922	TEG-5 240822 Normal	TEG-6 240822 INR approx 2.5
VH1122	TEG-7 091122 Spiked with approx. 0.4 IU/mL UFH	TEG-5 091122 Normal
VH0323	TEG-2 280223 (23.72 / 23.74) Normal	TEG-3 280223 (23.73 / 23.75) Abnormal
VH0523	TEG-11 160523	TEG-10 160523
	Normal plasma spiked with 0.2 - 0.3 IU/mL UFH 3 mL	Normal
VH0923	TEG-10 220823	TEG-12 220823
	Normal plasma spiked with LMWH 0.5 - 0.6 IU/mL	Normal plasma spiked with LMWH 0.5 - 0.6 IU/mL

ROTEM Sigma / TEG 6

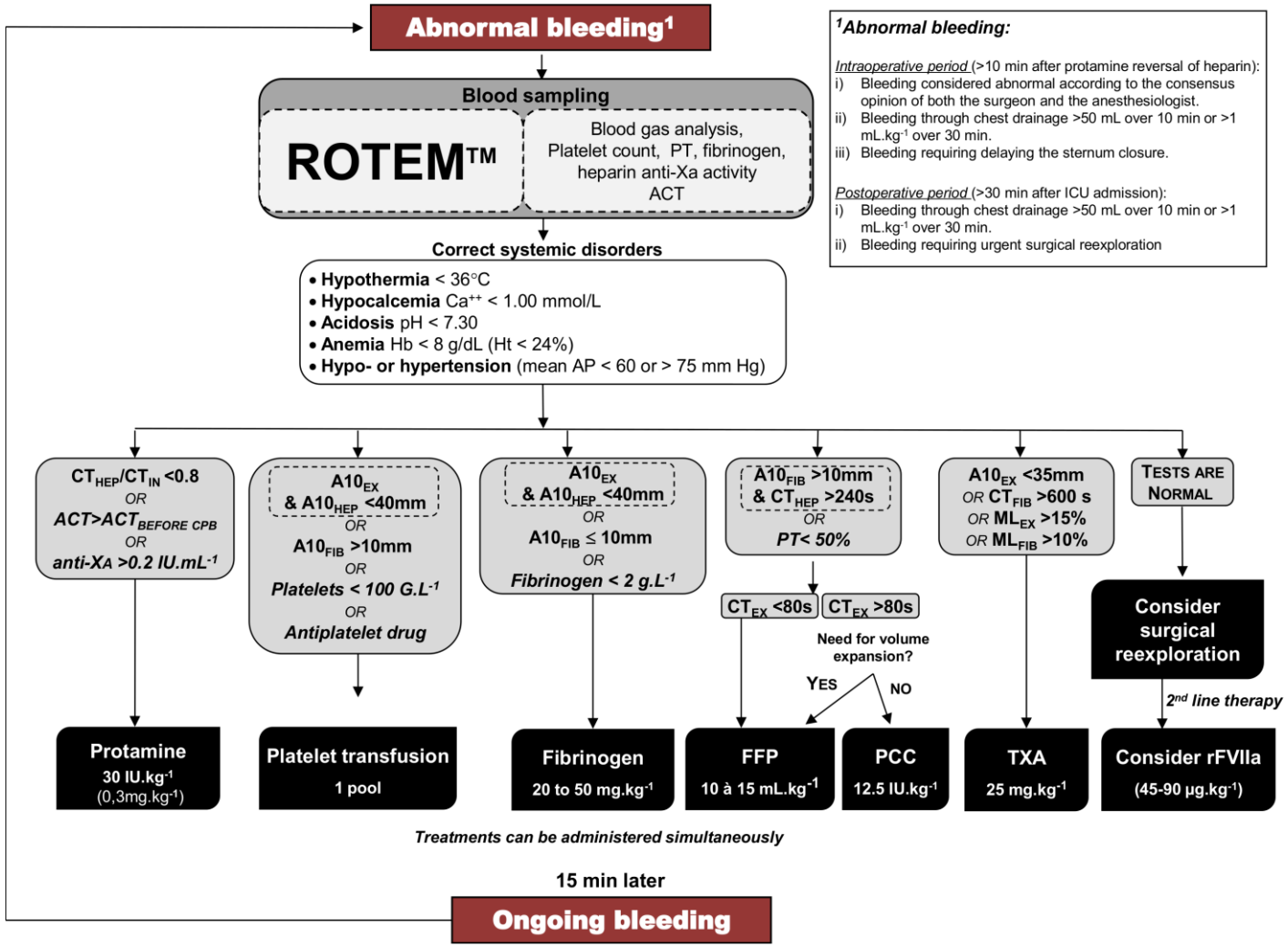
- Completely automated device where the blood tube is inserted directly into the instrument.
- This technology also uses the pin and cup technique similar to the ROTEM® delta.
- This allows for the use of the same algorithms that are already established for the ROTEM® delta device.

- Cartridge-based minimising operator-dependent variability in the pipetting technique
- Measures the resonance frequency of a whole blood sample that is exposed to frequency vibrations caused by the motion of the blood meniscus.
- The resulting resonance frequency of the whole blood sample is measured by illuminating the sample with a light-emitting diode (LED).
- As the clot forms and the alteration of resonance is measured by the LED, the collected data is converted into a graph that is identical to that used in the cup and pin method.

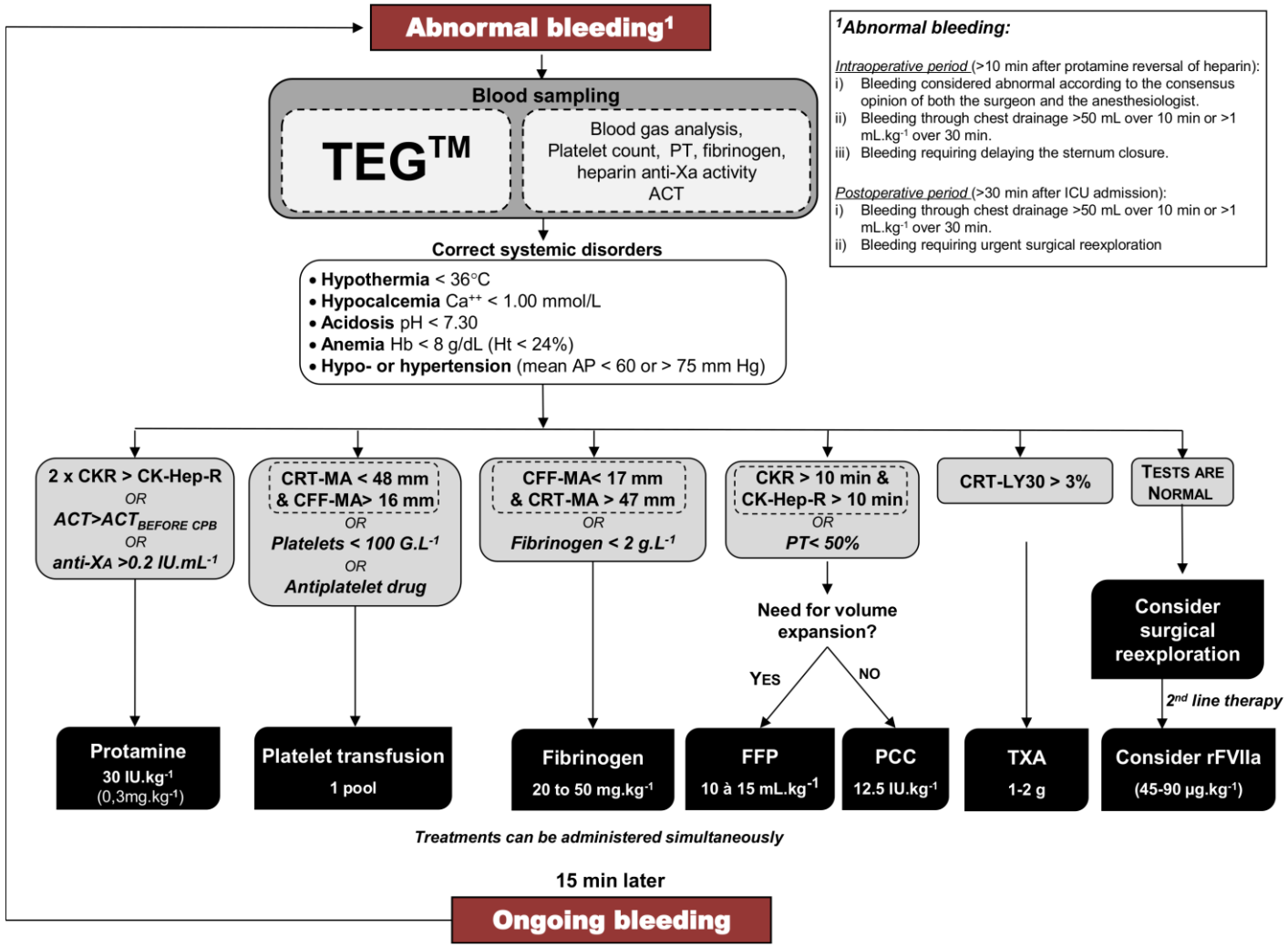
ROTEM in Post Partum Haemorrhage



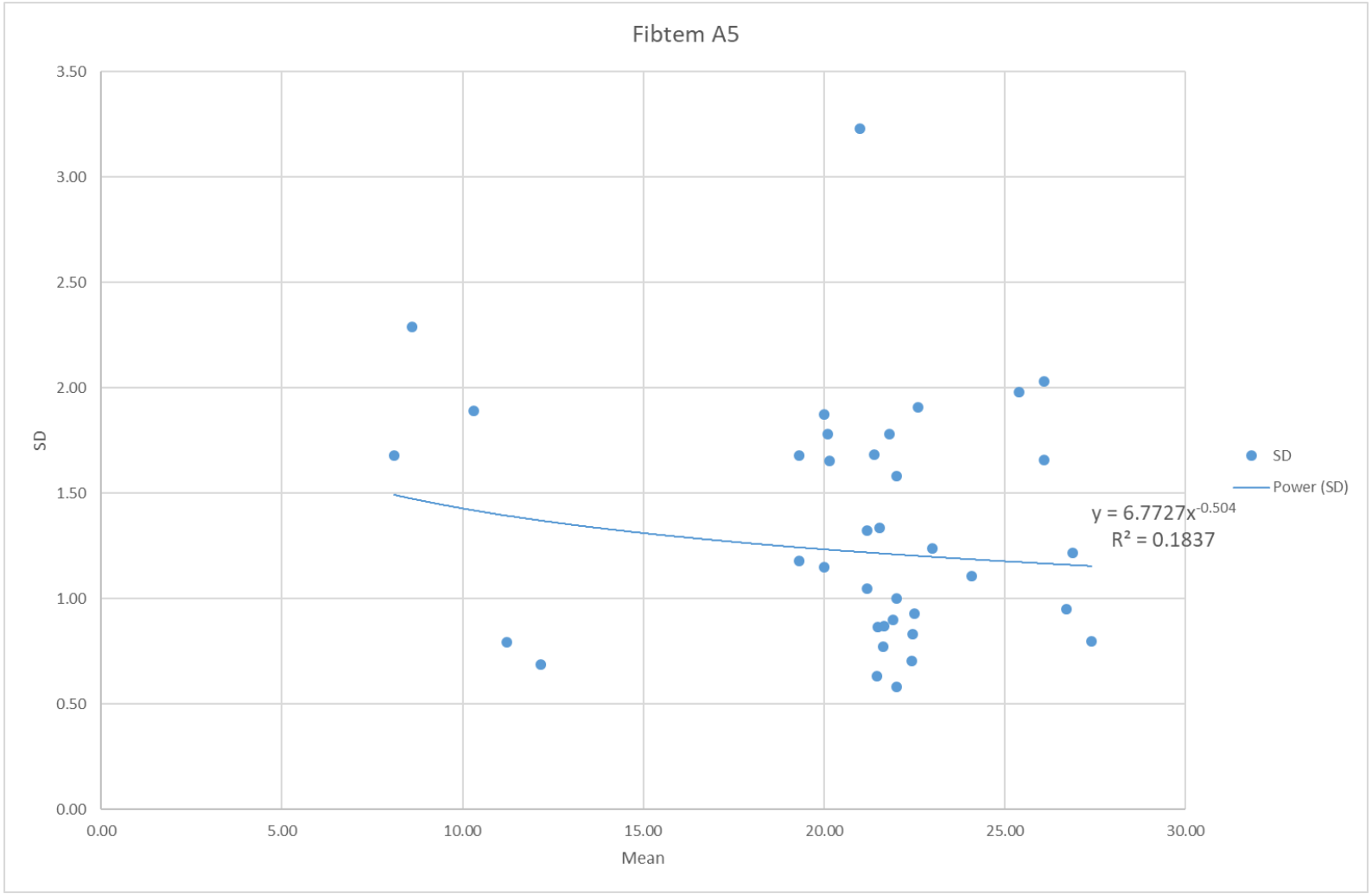
ROTEM in Abnormal Bleeding Management



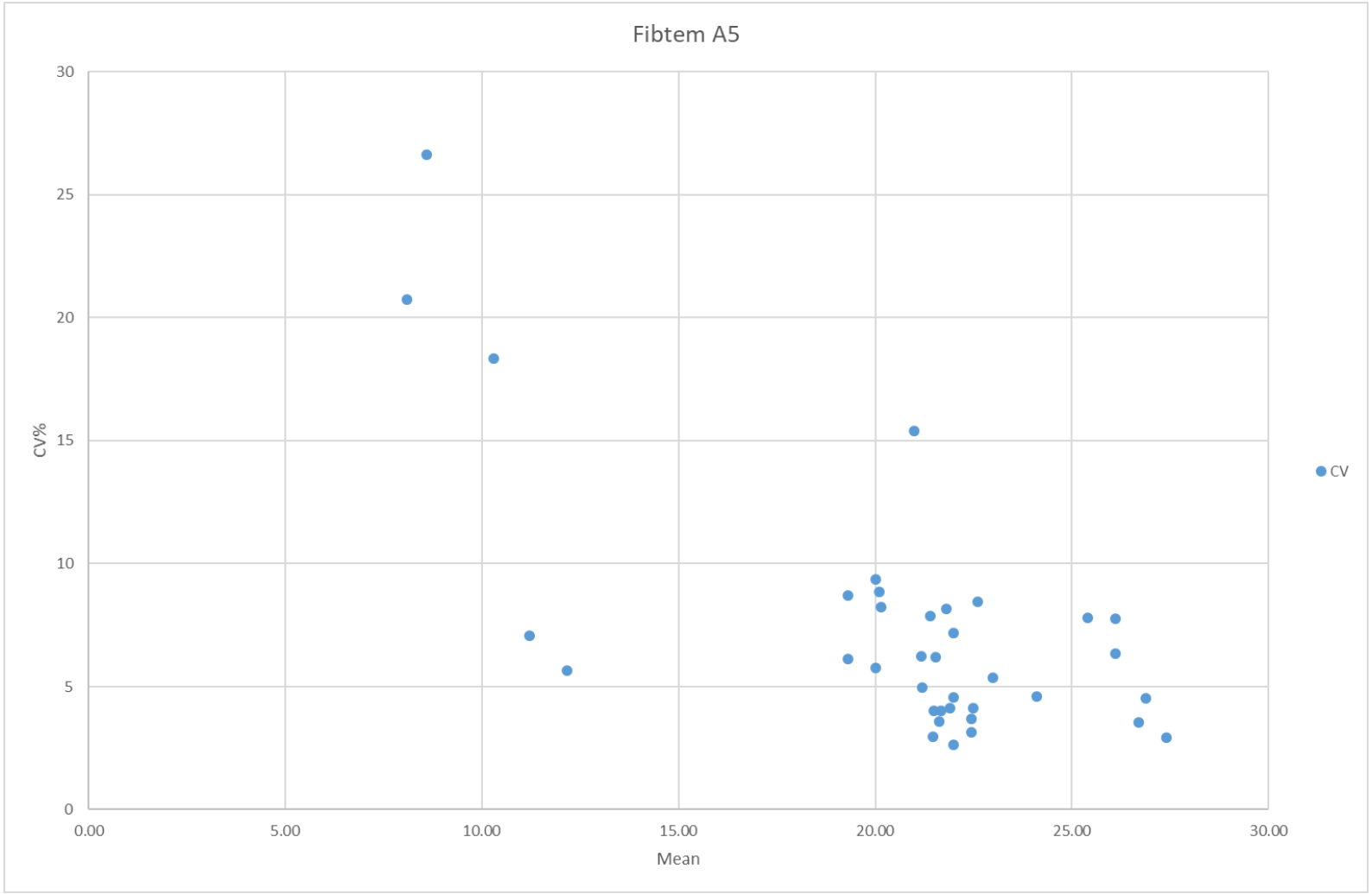
TEG in Abnormal Bleeding Management



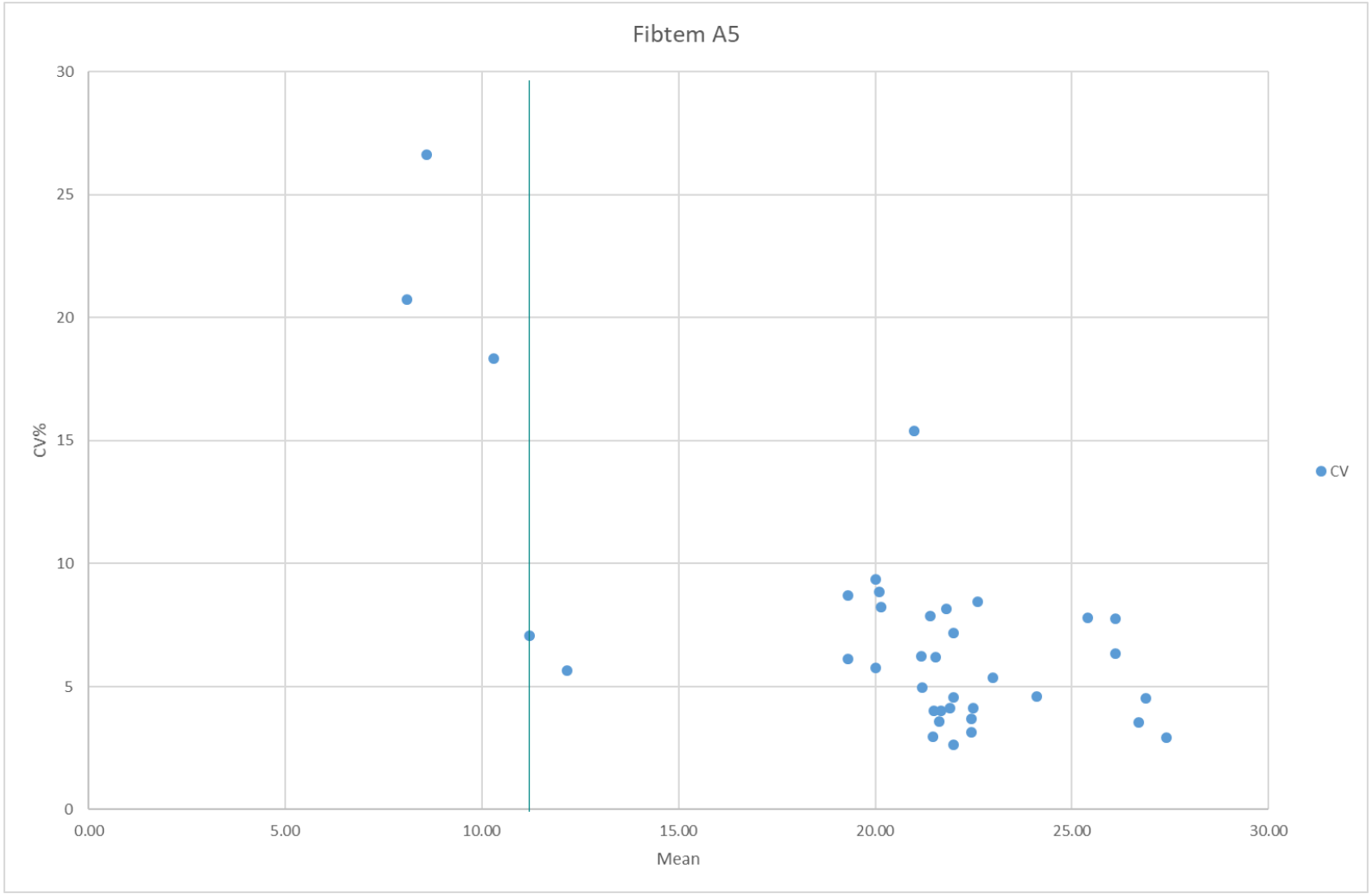
Fibtem A5 Precision Profile



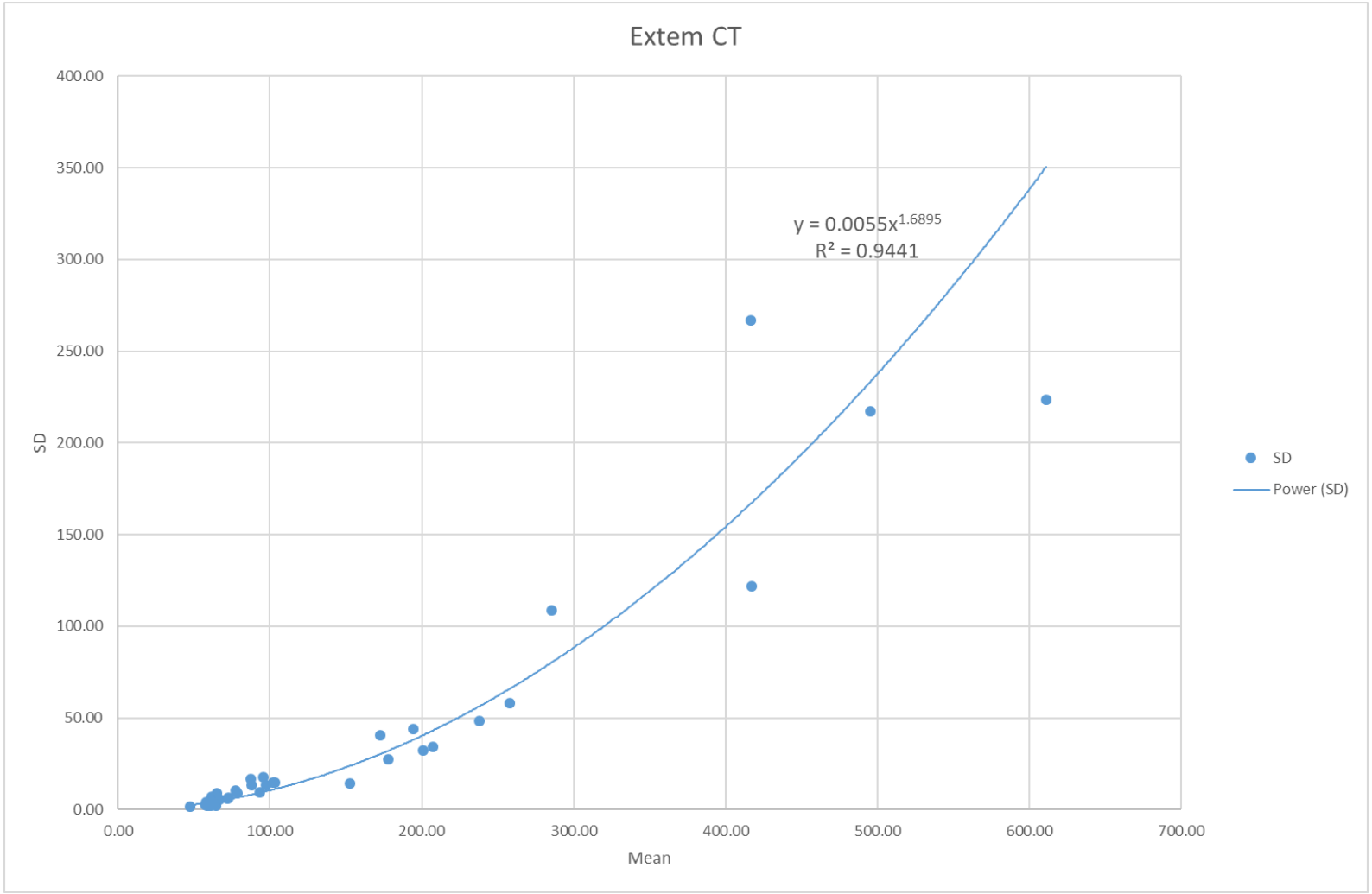
Fibtem A5 Precision Profile – CV%



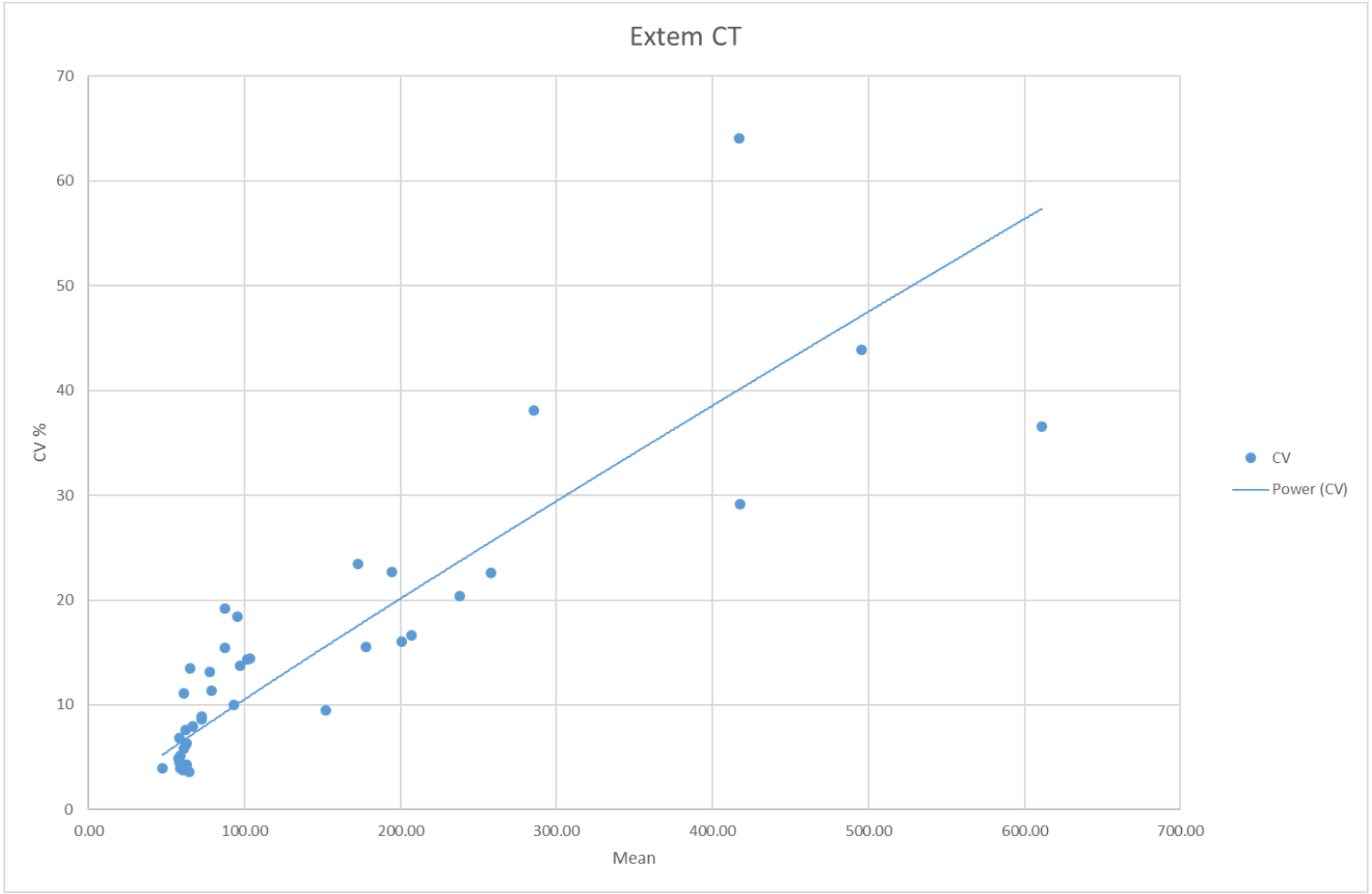
Fibtem A5 Precision Profile – CV%



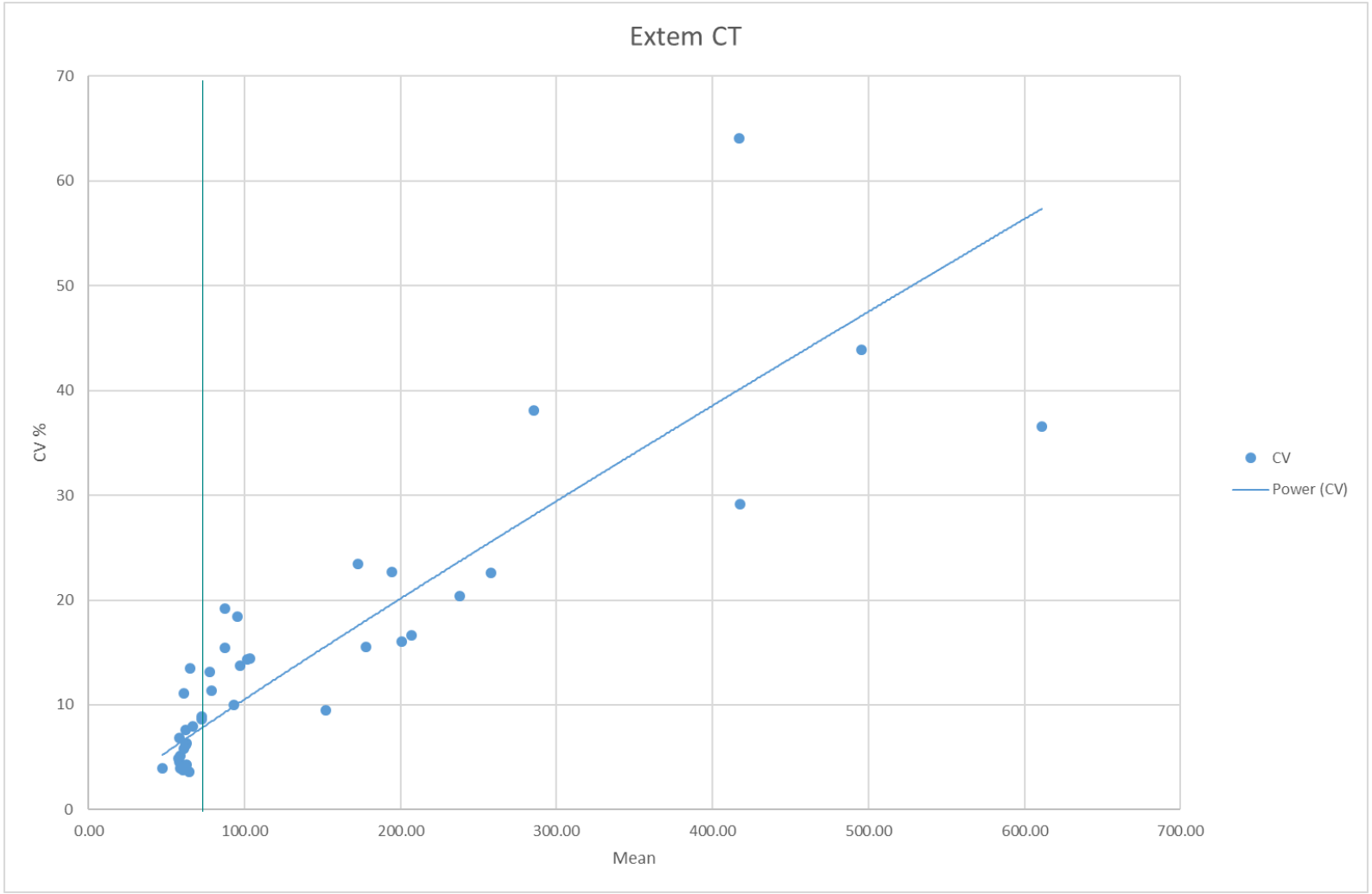
Extem CT Precision Profile



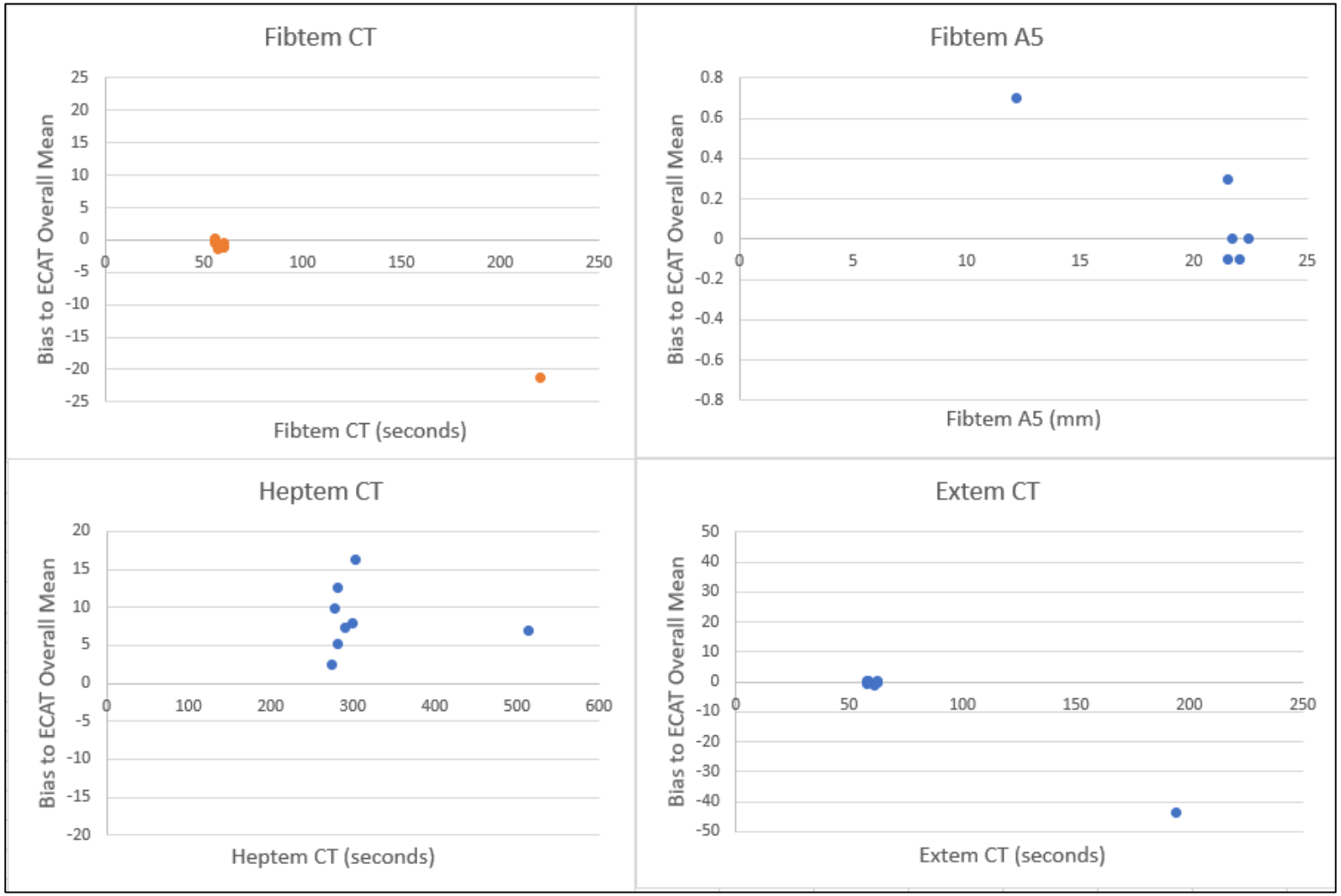
Extem CT Precision Profile CV%



Extem CT Precision Profile CV%



Bias to ECAT Overall Mean



Fibtem A5 - Performance at Cut-offs

VH0323 sample 2
Overall Mean 12.2 – give Fibrinogen

13 results
3 ≤11 – give fibrinogen
10 ≥ 12 – do not give Fibrinogen

VH0323 sample 2
Overall Mean 11.2 – Do not give Fibrinogen

17 results
9 ≤11 – give fibrinogen
8 ≥ 12 – do not give Fibrinogen

Extem CT - Performance at Cut-offs

VH0923 sample 1

Overall Mean 64.6 – No FFP required (ECAT Overall Mean 63.5)

20 results
19 < 75 – no FFP Required
1 ≥ 75 – FFP Required

VH0923 sample 2

Overall Mean 200.7 – Give FFP (ECAT Overall Mean 197.0)

19 results
0 < 75 – no FFP Required
19 ≥ 75 – FFP Required

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Thank you