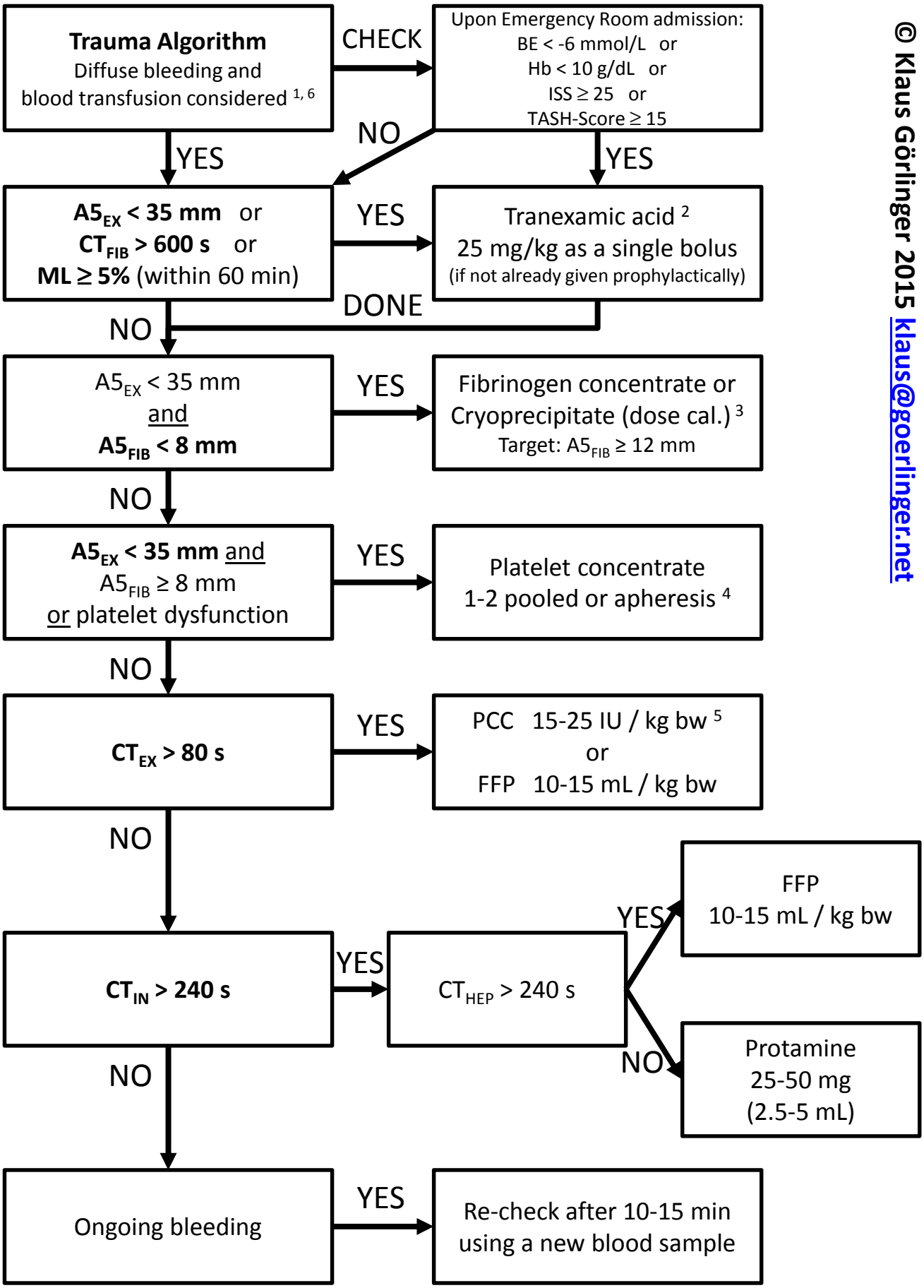

Trauma Algorithm - Footnotes

- **[1] Basic conditions:**
  - Temp. > 35°C; pH > 7.2; Ca_i^{++} > 1 mmol/L
  - Hb > 7 g/dL
- **[2] Antifibrinolytic therapy:**
  - Prophylactic administration of TXA can be given within 3 h after trauma (CRASH II protocol)
  - Continuous infusion of TXA can be performed (CRASH II protocol)
  - Dirkmann et al. Anesth Analg. 2014
  - CT_{FIB} > 600 s represents a flat-line in FIBTEM
  - Chapman et al. J Trauma Acute Care Surg. 2013
  - EACA can be used instead of TXA (based on local practice)
- **[3] Fibrinogen dose calculation:**

Targeted increase in $A5_{FIB}$ (mm)	Fibrinogen dose (mg / kg bw)	Fibrinogen concentr. (mL / kg bw)	Cryoprecipitate (mL / kg bw)
2	12.5	0.6 [1 g per 80 kg]	1 [5 U per 80 kg]
4	25	1.2 [2 g per 80 kg]	2 [10 U per 80 kg]
6	37.5	1.9 [3 g per 80 kg]	3 [15 U per 80 kg]
8	50	2.5 [4 g per 80 kg]	4 [20 U per 80 kg]
10	62.5	3.1 [5 g per 80 kg]	5 [25 U per 80 kg]
12	75	3.8 [6 g per 80 kg]	6 [30 U per 80 kg]

  - Fibrinogen dose (g) = targeted increase in $A5_{FIB}$ (mm) x body weight (kg) / 160
  - Correction factor (140-160 $mm \cdot kg \cdot g^{-1}$) depends on the actual plasma volume
  - Reached increase can be lower than calculated increase in severe bleeding
  - 10 U Cryoprecipitate ≈ 2 g Fibrinogen concentrate
- **[4] Platelet concentrate (PC) transfusion:**
  - Check platelet function with ROTEM platelet (ADPtem and TRAPtem) or Multiplate, if available
  - Consider tranexamic acid (25 mg/kg) and/or desmopressin (DDAVP; 0.3µg/kg) in patients with dual antiplatelet therapy and/or ADPtem < 30 Ω·min
  - Expected increase per pooled/apheresis PC per 80 kg: 8-10 mm in $A5_{EX}$ →
  - $A5_{EX}$ < 35 mm (or ADPtem < 30 Ω·min): 1 pooled or apheresis PC
  - $A5_{EX}$ < 25 mm (or ADPtem < 30 Ω·min and TRAPtem < 50 Ω·min): 2 pooled or apheresis PC
  - $A5_{EX}$ < 15 mm: 2 platelet concentrates + fibrinogen substitution (≥ 4 g)
- **[5] If Prothrombin-Complex-Concentrate (4F-PCC) is not available:**
  - 10-15 mL/kg FFP or
  - 45-90 µg/kg rFVIIa (if $A5_{EX}$ and $A5_{FIB}$ are ok but FFP transfusion was not effective)
- **[6] Simultaneous interventions:**
  - Maximal three interventions at the same time (in first analysis and severe bleeding)
  - Maximal two interventions at the same time (in second analysis and moderate to severe bleeding)
  - Only one intervention at the same time (in second or later analysis and mild to moderate bleeding)

Trauma Algorithm - References

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