# Supplementary File 1

# Equations of five existing models predicting EAF

**Liver graft assessment following transplantation (L-GrAFT) risk model for postoperative days 7 and 10 1,2**

L-GrAFT7 = 6.9647 – 0.5799\*(AUC ln AST) + 0.00844\*(AUC ln AST)2 + 5.25347\*(slope lnAST) +4.65046\*(slope lnAST)2 +1.14098\*(ln AUC INR) – 0.03475\*(AUC ln TBIL) + 0.00562\*(AUC ln TBIL)2 + 4.31135\*(slope ln TBIL) + 5.84724\*(slope ln TBIL)2 – 0.05115\*(AUC ln PLT)

L-GrAFT10 = 9.77 – 0.42926\*(AUC ln AST) + 0.00462\*(AUC ln AST)2 + 4.60719\*(Slope7 ln AST) + 4.4129\*(Slope7 ln AST)2 + 0.88974\*(ln max INR) – 0.04852\*(AUC ln TBIL) + 0.00363\*(AUC ln TBIL)2 + 5.33627\*(slope ln TBIL) – 0.04621\*(AUC ln PLT) – 5.24897\*(slope ln PLT) + 13.08633\*(slope ln PLT)2

**EASE score3**

EASE = −0.602 + 0.044\*(MELD at transplant) + 0.065\*(number of PACKED RED BLOOD CELL transfused units during surgery) + 2.567 (if arterial or portal thrombosis during days 1–10) + 0.000534\*(AUC ln AST in POD1,2,3,7,10)^2 – 0.093\*(AUC ln PLT in POD1,3,7,10) – 7.766\*(slope ln PLT in POD1,3,7,10) + 0.795\*(slope ln bilirubin in POD1,3,7,10) – 0.402 (if center volume ≥ 70 cases per year)

**Model of early allograft function (MEAF)4**

MEAF = (score ALTmax.3POD + score INRmax.3POD + score bilirubin3POD)

score ALTmax.3POD = 3.29/{1 + exp[−1.9132 \* (ln ALTmax.3POD − 6.1723)]};

score INRmax.3POD = 3.29/{1 + exp[−6.8204 \* (ln INRmax.3POD − 0.6658)]};

score bilirubin3POD = 3.4/{1 + exp[−1.8005 \* (ln bilirubin3POD − 1.0607)]};

**Early allograft dysfunction (EAD)5**

The criteria of EAD defined by Olthoff *et al*. is the presence of one or more variables: (1) bilirubin ≥10 mg/dL on POD 7, (2) INR ≥1.6 on POD 7, and (3) ALT or AST > 2,000 IU/L within the first 7 days.

# References

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2. Agopian VG, Markovic D, Klintmalm GB, *et al*. Multicenter validation of the liver graft assessment following transplantation (L-GrAFT) score for assessment of early allograft dysfunction. J Hepatol 2021;74(4):881-892. doi:10.1016/j.jhep.2020.09.015

3. Avolio AW, Franco A, Schlegel A, *et al*. Development and Validation of a Comprehensive Model to Estimate Early Allograft Failure Among Patients Requiring Early Liver Retransplant. JAMA Surg 2020;155(12):e204095. doi:10.1001/jamasurg.2020.4095

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5. Olthoff KM, Kulik L, Samstein B, *et al*. Validation of a current definition of early allograft dysfunction in liver transplant recipients and analysis of risk factors. Liver Transpl 2010;16(8):943-949. doi:10.1002/lt.22091