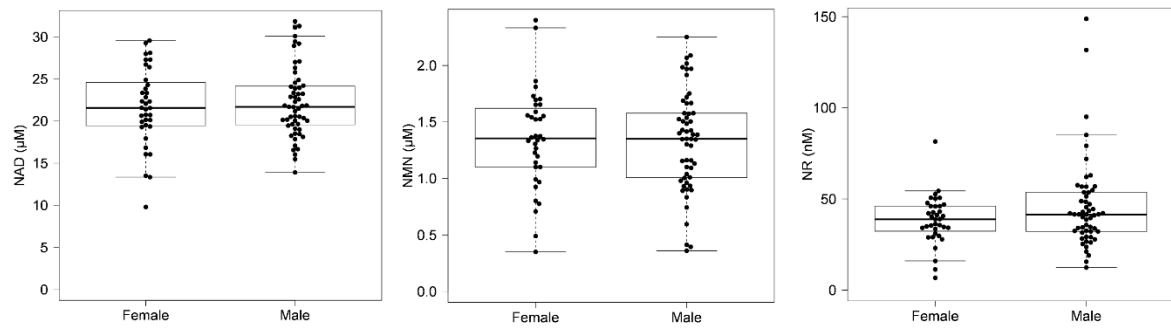
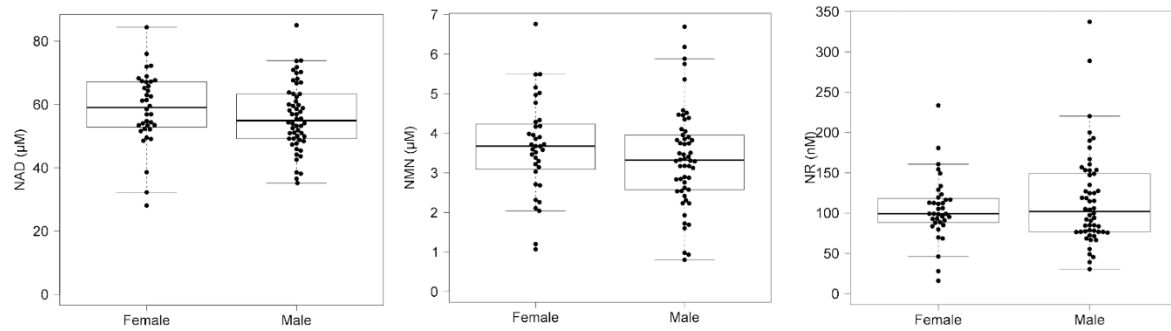


Concentration in whole blood

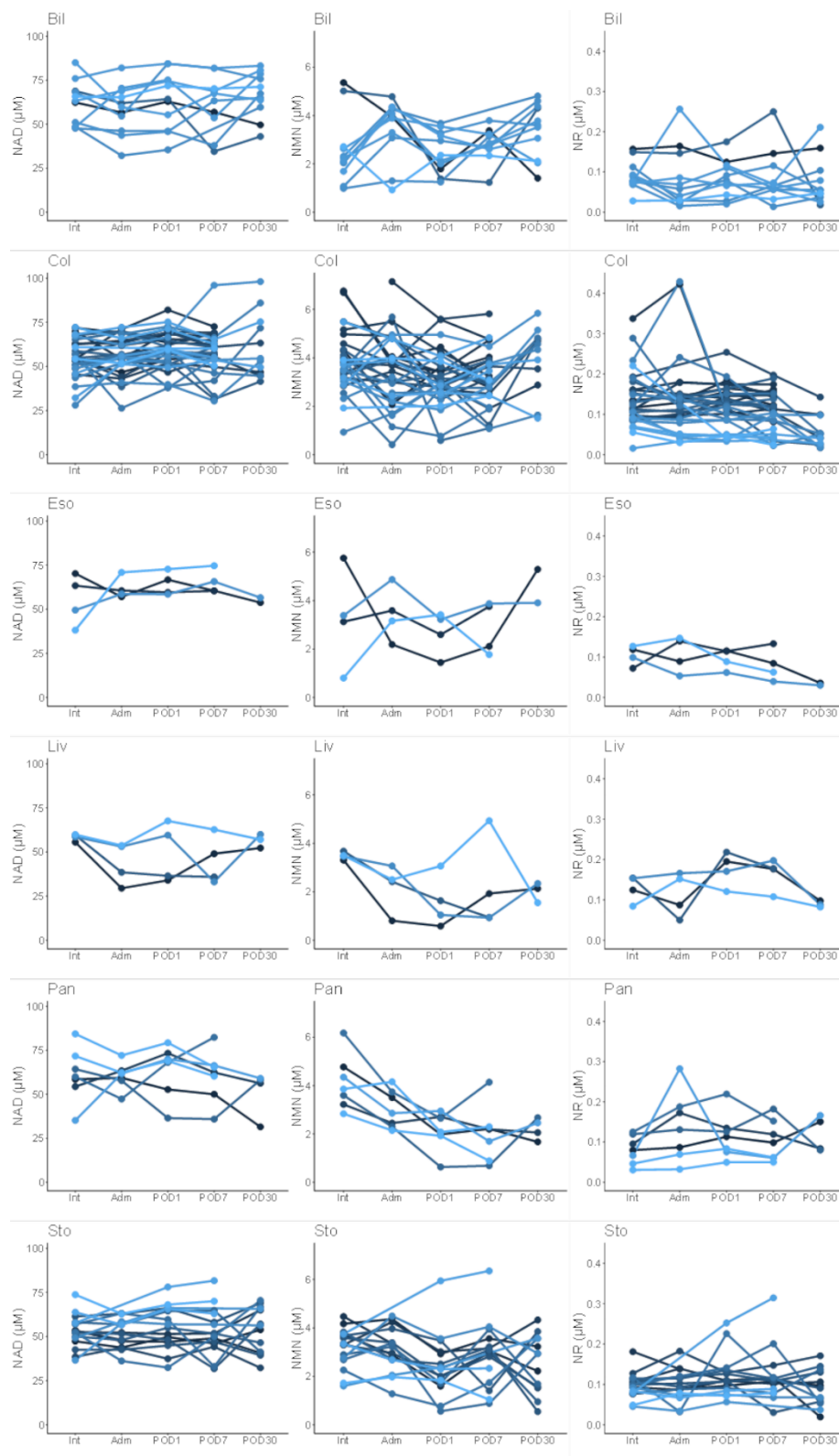


RBC volume-adjusted concentration



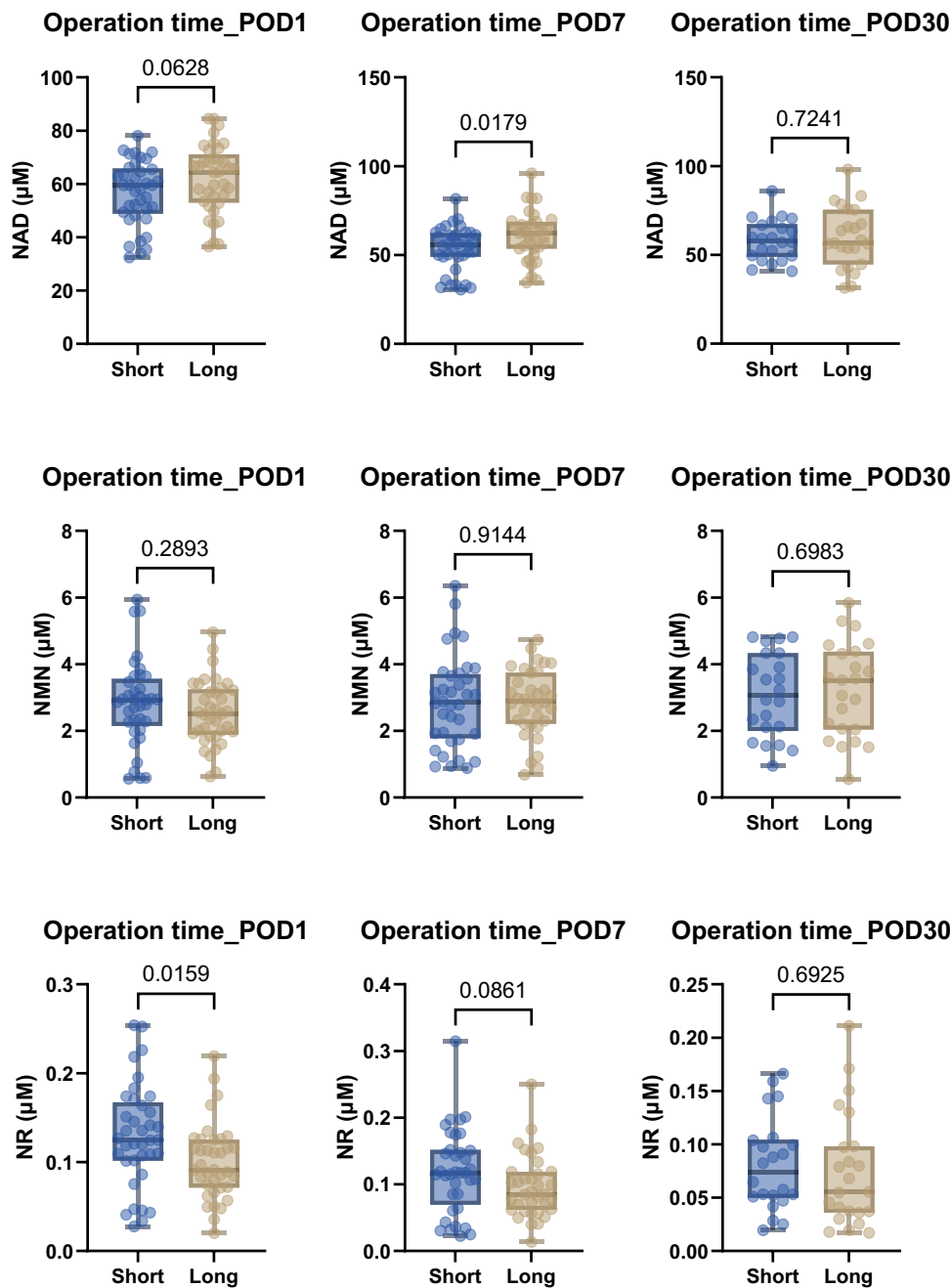
Supplemental Fig. S1

Comparison between females and males for NAD⁺, NMN, and NR. The quantified whole blood NAD⁺-metabolite values were represented as concentrations adjusted for RBC volume.



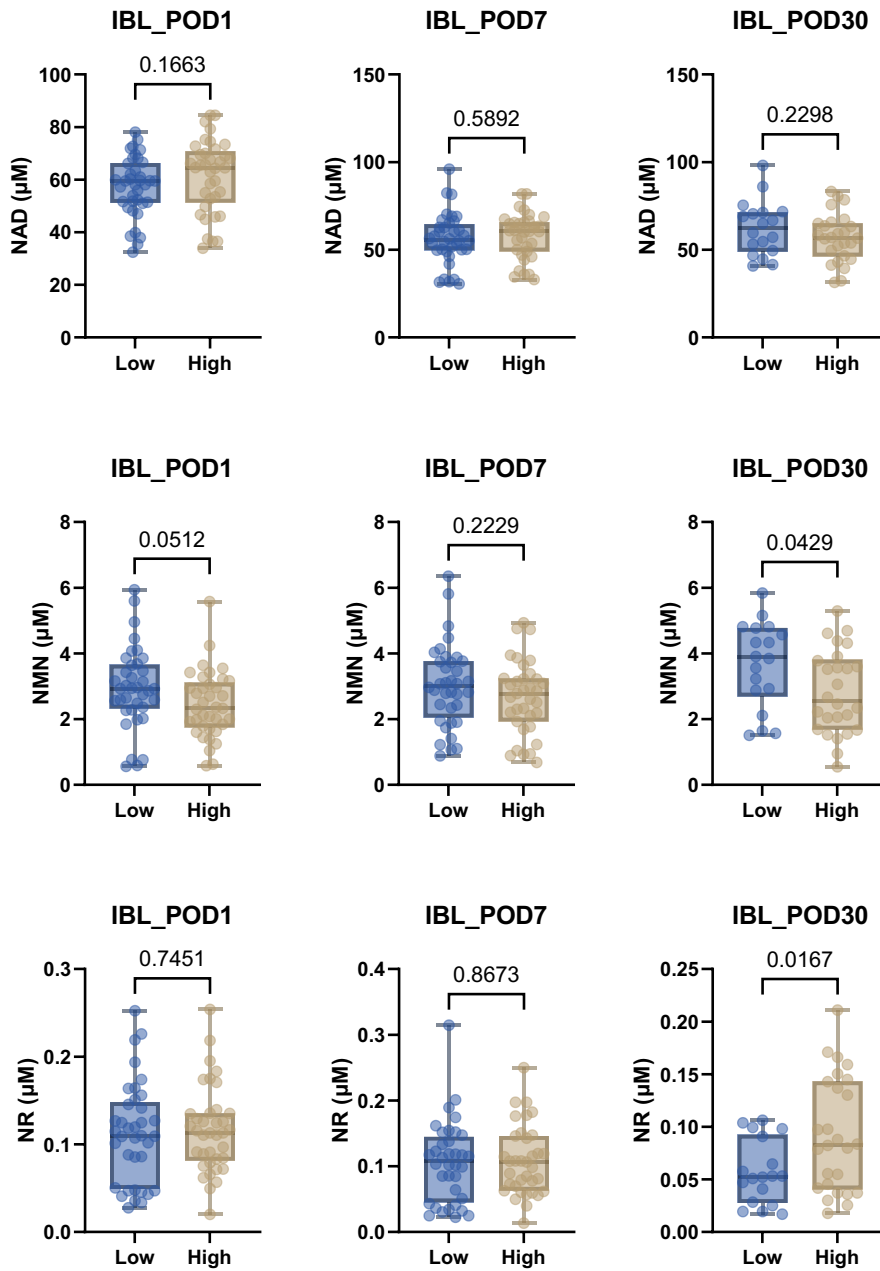
Supplemental Fig. S2

Perioperative line plot of NAD⁺ metabolites for each patient by cancer type.



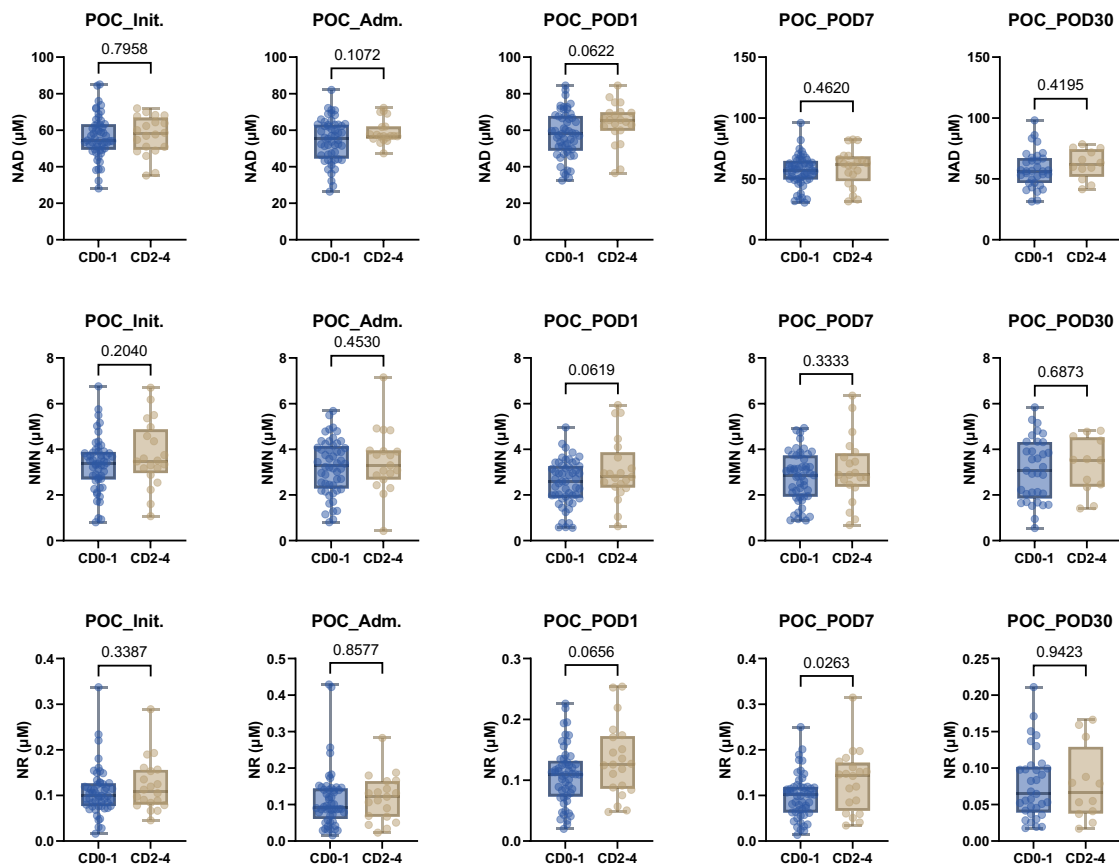
Supplemental Fig. S3

Association between NAD^+ and operative time. Measurements stratified by median operative time were represented in box plots. Each measurement was represented as an RBC volume-corrected concentration. POD1, the day after surgery; POD7, one week after surgery; POD30, one month after surgery.



Supplemental Fig. S4

Association between NAD^+ and intraoperative bleeding. Measurements stratified by median intraoperative bleeding were represented in box-plots. Each measurement was represented as an RBC volume-corrected concentration. IBL, intraoperative bleeding; POD1, the day after surgery; POD7, one week after surgery; POD30, one month after surgery.



Supplemental Fig. S5

Analysis of association between NAD^+ and postoperative complications. Measurements stratified by no or minor complications (CD0-1) and moderate to severe complications (CD2-4) were represented in box plots. Each measurement was represented as a RBC volume-corrected concentrations. Adm., admission; Int., initial intake medical examination; POD1, the day after surgery; POD7, one week after surgery; POD30, one month after surgery.

Supplemental Information 1. Exclusion Criteria

1. Did not wish to participate in the study.
2. Deemed unsafe for the trial by a participating physician*

*Physicians were tasked with determining whether or not a patient was inappropriate for this trial based on safety reasons.

Supplemental Table 1. MRM transitions and MS parameters for NAD⁺, NMN, and NR measurement.

	Q1 (<i>m/z</i>)	Q3 (<i>m/z</i>)	Declustering potential (V)	Entrance potential (V)	Collision energy (V)	Collision cell exit potential (V)
NAD ⁺	664.06	136.10	101	10	117	14
NAD ⁺ -d4	668.20	136.10	101	10	117	14
NMN	335.10	123.10	140	10	19	20
NMN-d4	339.14	126.90	140	10	19	20
NR	255.17	123.00	66	10	29	18
NR-d4	259.17	127.00	66	10	29	18

NAD⁺, nicotinamide adenine dinucleotide; NMN, nicotinamide mononucleotide; NR, nicotinamide riboside chloride.