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Supplement 1. PICO and Search Strategies

PICO:	
The eligibility criteria were structured using the PICO framework as follows:	
Population(P)	Patients with diabetes mellitus (Type 1 or Type 2), including those with associated metabolic disorders such as insulin resistance, hyperglycemia, or metabolic syndrome.
Intervention(I)	Intravenous laser therapy (IVLT), also known as intravenous laser blood irradiation (IVLB), low-level laser therapy (LLLT), photobiomodulation (PBM), or low-level light therapy.
Comparison(C)	Standard care, placebo, sham therapy, or no intervention (not explicitly defined in search strategy to maximize sensitivity).
Outcomes (O)	Glycemic control parameters (fasting blood glucose, HbA1c, glycemic index, two-hour postprandial glucose, serum insulin) and diabetes-related complications (diabetic nephropathy, diabetic retinopathy, diabetic neuropathy).

Search Strategies:

Pubmed
((“Diabetes Mellitus, Type 2”[MeSH] OR “Diabetes Mellitus, Type 1”[MeSH] OR diabetes OR “type 2 diabetes” OR “type two diabetes” OR diabetic OR T2DM OR “type 2 diabetes mellitus” OR “glucose metabolism disorder” OR “Hyperglycemia”[MeSH] OR “Insulin Resistance”[MeSH] OR “Metabolic Syndrome”[MeSH]) AND (“Intravenous laser therapy” OR “IV laser therapy” OR “intravenous laser blood irradiation” OR IVLB OR “low-level laser therapy” OR LLLT OR photobiomodulation OR PBM OR “Low-Level Light Therapy”[MeSH] OR “Laser Therapy”[MeSH] OR “Blood Irradiation, Intravenous”[MeSH] OR “Phototherapy”[MeSH])) AND (“Fasting blood sugar” OR “Fasting blood glucose” OR FBS

OR “glycemic index*” OR HbA1c OR “glycated hemoglobin”[All Fields] OR “Hemoglobin A, Glycosylated”[MeSH] OR 2hpp OR “two-hour postprandial glucose” OR “serum insulin” OR nephropath* OR “Diabetic Nephropathies”[MeSH] OR retinopath* OR “Diabetic Retinopathy”[MeSH] OR neuropath* OR “Diabetic Neuropathies”[MeSH])
Scopus
(TITLE-ABS-KEY(diabetes OR “type 2 diabetes” OR “type two diabetes” OR diabetic OR T2DM OR “type 2 diabetes mellitus” OR “glucose metabolism disorder” OR hyperglycemia OR “insulin resistance” OR “metabolic syndrome”)) AND (TITLE-ABS-KEY(“intravenous laser therapy” OR “IV laser therapy” OR “intravenous laser blood irradiation” OR IVLB OR “low-level laser therapy” OR LLLT OR photobiomodulation OR PBM OR “low-level light therapy” OR “laser therapy” OR “blood irradiation” OR phototherapy)) AND (TITLE-ABS-KEY(“fasting blood sugar” OR “fasting blood glucose” OR FBS OR “glycemic index*” OR HbA1c OR “glycated hemoglobin” OR “glycosylated hemoglobin” OR 2hpp OR “two-hour postprandial glucose” OR “postprandial glucose” OR “serum insulin” OR nephropath* OR “diabetic nephropathies” OR retinopath* OR “diabetic retinopathy” OR neuropath* OR “diabetic neuropathies”))
Web of Science
TS=(diabetes OR “type 2 diabetes” OR “type two diabetes” OR diabetic OR T2DM OR “type 2 diabetes mellitus” OR “glucose metabolism disorder” OR hyperglycemia OR “insulin resistance” OR “metabolic syndrome”) AND TS=(“intravenous laser therapy” OR “IV laser therapy” OR “intravenous laser blood irradiation” OR IVLB OR “low-level laser therapy” OR LLLT OR photobiomodulation OR PBM OR “low-level light therapy” OR “laser therapy” OR “blood irradiation” OR phototherapy) AND TS=(“fasting blood sugar” OR “fasting blood glucose” OR FBS OR “glycemic index*” OR HbA1c OR “glycated hemoglobin” OR “glycosylated hemoglobin” OR 2hpp OR “two-hour postprandial glucose” OR “postprandial glucose” OR “serum insulin” OR nephropath* OR “diabetic nephropathies” OR retinopath* OR “diabetic retinopathy” OR neuropath* OR “diabetic neuropathies”)