Supplemental Table Mobile glucose biomarkers

Therapeutic Area	Technology	Position of device	Epochs	Study design	Type of clinical study	Other mobile outcomes	Other standard outcome assessment	Use of mobile outcomes	Objectives	Source
Diabetes (Type 1)	Continuous glucose monitor (AccuChek Spirit Combo insulin pump, Aviva Combo glucose-meter, Dexcom G4 Platinum CGM)	Not specified	Not specified	Interventional (RCT)	Treatment (Phase III)	NA	Glucose (Biomarker, PRO)	Primary endpoint Secondary endpoint Safety outcome	To assess glucose control achieved with an artificial pancreas (AP) used during the evening and night and patient managed open-loop control with use of sensor augmented pump (SAP) therapy during the day (AP period), versus continuous SAP therapy (control period), in free-living conditions in a study of sufficient duration to assess the effect on HbA1c.	Kropff 2015 [1]
Diabetes (Type 1)	Continuous glucose monitor (Dexcom G4 Platinum CGM)	Not specified	Not specified	Observational (Case control)	Expanded access	NA	Glucose (Biomarkers, PRO)	Secondary endpoint Safety outcome	To assess the efficacy of glucose control achieved by day-and-night artificial pancreas use for one month under free-living conditions.	Renard 2016 [2]
Diabetes (Type 1)	Continuous glucose monitor (Dexcom G4 Platinum CGM, Tandem Diabetes Care insulin pump)	Not specified	Not specified	Interventional (RCT)	Treatment (Phase III)	NA	Glucose (Biomarkers, PRO)	Co-Prim Endpoint Secondary endpoint	To test the safety and effectiveness of autonomous, wearable, bihormonal, bionic pancreas in two 5-day trials in with adults and adolescents in two distinct outpatient settings that minimally constrain patients' behavior but allow close observation for risk mitigation and high-density data collection.	Russell 2014 [3]
Diabetes (Type 1)	Continuous glucose monitor (Guardian REAL-time CGM, iPro CGM) Inertial sensor (SenseWear Armband)	Abdomen (Above the waist), Arm (Dominant Upper Arm over tricep)	Not specified	Interventional (RCT)	Prevention	NA	Glucose (Biomarkers)	Co-Prim Endpoint	To develop a closed-loop artificial pancreas control system that uses continuous measurements of glucose concentration and physiological variables, integrated with a hypoglycemia early alarm module to regulate glucose concentration and prevent hypoglycemia.	Turksoy 2014 [4]
Diabetes (Type 1)	Continuous glucose monitor (Inreda Diabetic BV)	Abdomen	Not specified	Interventional (RCT)	Treatment (Phase II)	NA	Glucose (PRO, Biomarker)	Primary endpoint	To determine if an integrated bihormonal artificial pancreas in adults with type 1 diabetes during short-term daily use at home (i) provides better glucose control than standard insulin pump therapy and (ii) provides treatment that is at least as safe as standard	Blauw 2016 [5]

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Diabetes (Type 1)	Continuous glucose monitor (Tandem Diabetes Care insulin pump)	Not specified	Not specified	Interventional (RCT)	Prevention	NA	Glucose (Biomarker)	Primary endpoint Secondary endpoint	To estimate the effect size of hypoglycemia risk reduction on closed-loop control versus open-loop sensor-augmented insulin pump therapy in supervised outpatient setting.	Kovatchev 2014 [6]

PRO = Patient Reported Outcome

References

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