Patient Information

* **Patient Unit Stay ID:** 562305 * **Unique Patient ID:** 006-100497 * **Gender:** Male * **Age:** 28 * **Ethnicity:** Caucasian * **Hospital ID:** 146 * **Ward ID:** 374 * **Unit Type:** Med-Surg ICU * **Admission Weight (kg):** 56.8 * **Discharge Weight (kg):** 56.8 * **Hospital Admit Time:** 02:34:00 * **Hospital Admit Source:** Emergency Department * **Hospital Discharge Year:** 2015 * **Hospital Discharge Time:** 03:14:00 * **Hospital Discharge Location:** Home * **Hospital Discharge Status:** Alive * **Unit Admit Time:** 04:10:00 * **Unit Admit Source:** Emergency Department * **Unit Discharge Time:** 03:14:00 * **Unit Discharge Location:** Home * **Unit Discharge Status:** Alive * **Admission Height (cm):** 170

Medical History

NULL (Insufficient data provided)

Diagnoses

* **Diagnosis ID:** 10397849 * **Patient Unit Stay ID:** 562305 * **Active Upon Discharge:** True * **Diagnosis Offset (minutes):** 23 * **Diagnosis String:** endocrine|glucose metabolism|DKA * **ICD-9 Code:** 250.13, E10.1 * **Diagnosis Priority:** Primary

Treatments

* **Treatment ID:** 24165366 * **Patient Unit Stay ID:** 562305 * **Treatment Offset (minutes):** 23 * **Treatment String:** endocrine|intravenous fluid administration|normal saline administration|aggressive volume resuscitation (>250 mls/hr) * **Active Upon Discharge:** True

Vital Trends

NULL (Insufficient data provided)

Lab Trends

The provided data includes multiple lab results for various analytes at different time points relative to unit admission. Key lab values include:

* **Glucose:** Shows significant fluctuation, with initial values extremely high (475 mg/dL, 424 mg/dL, 374 mg/dL) indicating hyperglycemia, followed by a gradual decrease (e.g., 229 mg/dL, 199 mg/dL, 183 mg/dL, 161 mg/dL, 143 mg/dL, 141 mg/dL, 133 mg/dL, 97 mg/dL, 70 mg/dL) suggesting response to treatment. Further analysis is needed to determine the precise pattern and rate of decline. * **Anion Gap:** Elevated initially (24, 20) indicative of metabolic acidosis, which is consistent with DKA. Subsequently decreased (16, 10) reflecting improvement. * **Bicarbonate:** Low initially (8 mmol/L) consistent with metabolic acidosis, later increased (13 mmol/L, 18 mmol/L) showing improvement. * **Sodium:** Initially low (132 mmol/L, 136 mmol/L) indicating possible dehydration or fluid shifts associated with DKA, later improved (140 mmol/L). * **Potassium:** Initial values show some fluctuation (4.7 mmol/L, 4.2 mmol/L, 3.6 mmol/L), and later it appears to be stabilizing (4.1 mmol/L). Careful monitoring is crucial due to the risk of arrhythmias associated with potassium imbalances in DKA. * **BUN and Creatinine:** These values provide insights into renal function. Initial values (BUN: 15 mg/dL, Creatinine: 1 mg/dL) and subsequent values suggest some degree of renal compromise, though further evaluation is required. The changes need further analysis to determine the level of impairment and response to treatment. * **Other relevant labs:** Other lab results, such as albumin, total protein, AST, ALT, and complete blood count parameters (Hgb, Hct, MCV, MCH, MCHC, platelets, RBC, WBC, MPV, RDW), provide a comprehensive picture of the patient's overall metabolic, hepatic, and hematological status. These need further analysis in relation to the time course of the illness. Calcium levels also show some fluctuation.

Microbiology Tests

NULL (Insufficient data provided)

Physical Examination Results

* **Physical Exam Performed:** Yes (Performed - Structured) * **Glasgow Coma Scale (GCS):** Scored; Eye score: 4, Verbal score: 5, Motor score: 6. This suggests a relatively good neurological status. * **Weight (kg):** Admission and current weight both recorded at 56.8 kg, indicating no significant weight change during the ICU stay. * **Intake and Output (I&O;):** Initial intake and output both recorded as 0 ml.

Chart Description

1. **Time Series Plot of Key Lab Values:** This plot would display glucose, anion gap, bicarbonate, sodium, potassium, BUN, and creatinine levels over time (in minutes from unit admission). Each analyte would be represented by a different colored line. This visualization would clearly demonstrate the trends in these crucial values, highlighting the initial abnormalities and the response to treatment over the course of the ICU stay. This helps to assess the severity of the DKA, the effectiveness of treatment, and any potential complications.

2. **Scatter Plot Matrix of Lab Values:** This would show correlations between different lab results. The axes would represent different lab values (glucose, anion gap, bicarbonate, sodium, potassium, BUN, creatinine, etc.), and each point would represent a single lab test result. Color-coding could be used to represent the time point of the lab draw (e.g., earlier tests in one color, later tests in another). This matrix would reveal potential interdependencies between different lab parameters, and any patterns indicating underlying organ dysfunction or response to treatment. This helps in understanding the overall metabolic state of the patient.

CSV Data

```csv LabResultOffset (minutes),Glucose (mg/dL),Anion Gap (mmol/L),Bicarbonate (mmol/L),Sodium (mmol/L),Potassium (mmol/L),BUN (mg/dL),Creatinine (mg/dL) -224,475,NULL,NULL,NULL,NULL,NULL,NULL -206,424,24,8,132,4.7,15,1 -175,374,NULL,NULL,NULL,NULL,NULL,NULL -145,284,20,10,136,4.2,15,0.9 -19,216,NULL,NULL,NULL,NULL,NULL,NULL 54,229,NULL,NULL,NULL,NULL,NULL,NULL 119,177,NULL,NULL,NULL,NULL,NULL,NULL 120,199,16,13,136,3.6,12,0.9 195,141,NULL,NULL,NULL,NULL,NULL,NULL 215,121,NULL,NULL,NULL,NULL,NULL,NULL 313,70,NULL,NULL,NULL,NULL,NULL,NULL 339,145,NULL,NULL,NULL,NULL,NULL,NULL 363,97,NULL,NULL,NULL,NULL,NULL,NULL 380,143,10,18,140,4.1,9,0.7 409,133,NULL,NULL,NULL,NULL,NULL,NULL 482,161,NULL,NULL,NULL,NULL,NULL,NULL 539,183,NULL,NULL,NULL,NULL,NULL,NULL 607,199,NULL,NULL,NULL,NULL,NULL,NULL 845,338,NULL,NULL,NULL,NULL,NULL,NULL

```

Note: NULL values in the CSV represent missing data in the original JSON. The CSV includes only the most relevant lab values for trend analysis. A more comprehensive CSV could be generated if more complete data were available. Similarly, the PDF report would be more complete with additional patient history and vital signs data.