

# Project and Development of a Decision Support System for Anesthesia Based on Data Fusion and PK/PD models.

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**Abstract**  
 The balanced anesthesia process contains three main parts: the control of hypnosis, analgesia and neuromuscular blockade. For the induction phase, the anesthesiologist performs procedures based on prior planning specific to each patient and usually performs these controls by monitoring clinical vital signs and other clinical signs for the maintenance phase. In a way that professional in the control is a control phase. In a way that professional in the control is a control phase. In a way that professional in the control is a control phase.

**Introduction**  
 During a general anesthesia procedure, the anesthesiologist has to maintain a patient's vital signs, a certain level of hypnosis, analgesia and neuromuscular blockade. Understanding a set of different drugs in their most temporal manner (pharmacokinetics) and monitoring the effects on the metabolism (pharmacodynamics) and monitoring the effects on the metabolism (pharmacodynamics) and monitoring the effects on the metabolism (pharmacodynamics).

**Methods and Materials (Data Acquisition)**  
 The selected classifier was used for its simplicity, relatively fast training process and overfitting resistance. An artificial neural network model was used for the results.

**Methods and Materials (Data Fusion)**  
 The mathematical model used are a set of pharmacokinetics (PK) and pharmacodynamics (PD) for each individual drug. The PK model describes the drug in the human body (absorption and distribution) and a set of compartmental models (Figure 1). Depending on the type of drug, a different number of compartments, but normally there are one and organs in compartment, but normally there are one and organs in compartment, but normally there are one and organs in compartment.

**Results**  
 Currently, data acquisition is still going in the Hospital São Carlos de São Paulo. We have collected data from more than 40 anesthesia procedures, covering over 2000 of information. The observed phenomena described by the PK/PD models were observed during the data acquisition, as is shown in the Figure 2.

**Conclusion**  
 Despite of the compressed enhanced developed application to acquire medical data, the chosen method has proven to be very effective and especially useful when applied to equipment development and appropriate programming. The proposed development and appropriate programming that has been compressed with good and viable data.

**References**  
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