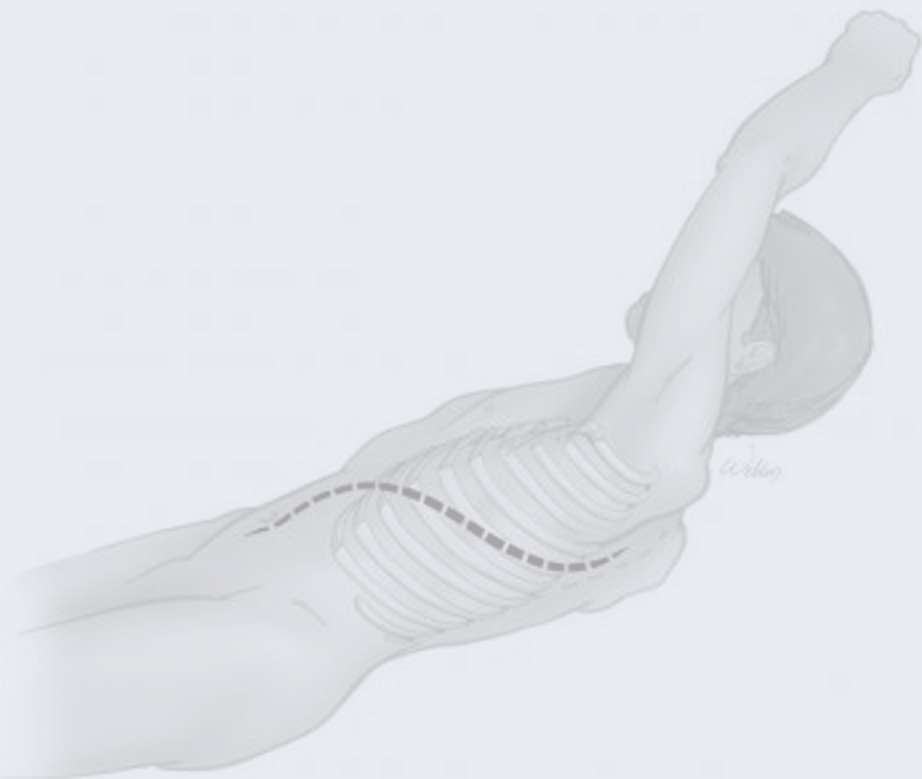
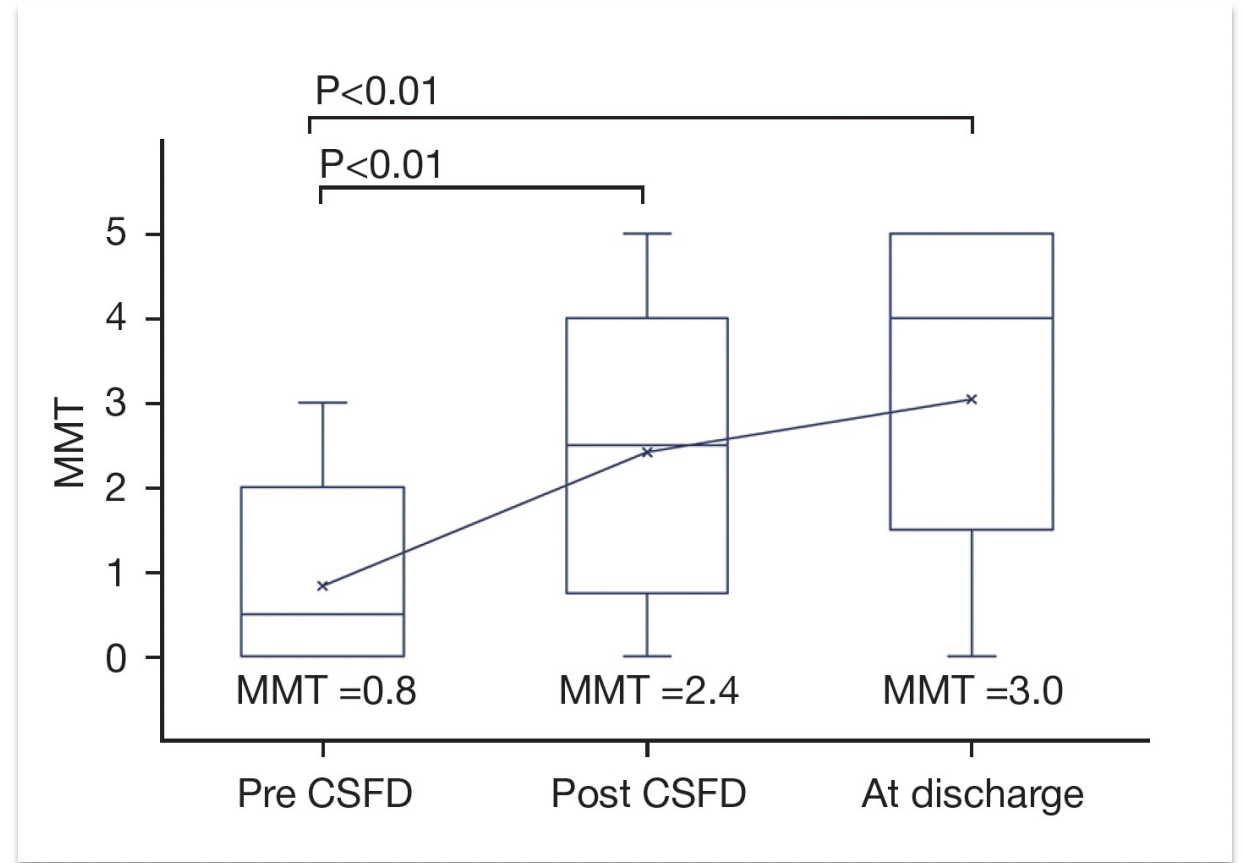
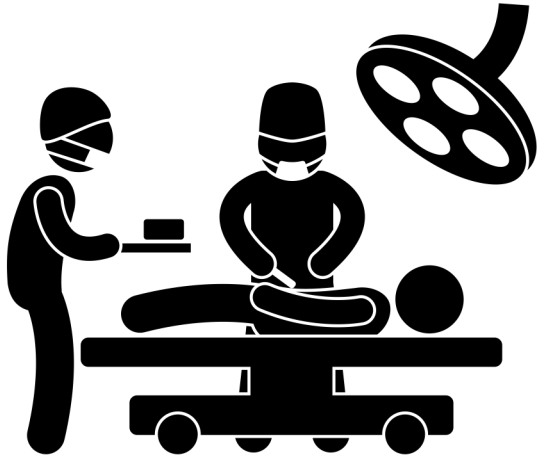


A preliminary prediction model using a deep learning software program for postoperative cerebrospinal fluid drainage after thoracic and thoracoabdominal aortic surgery

Background

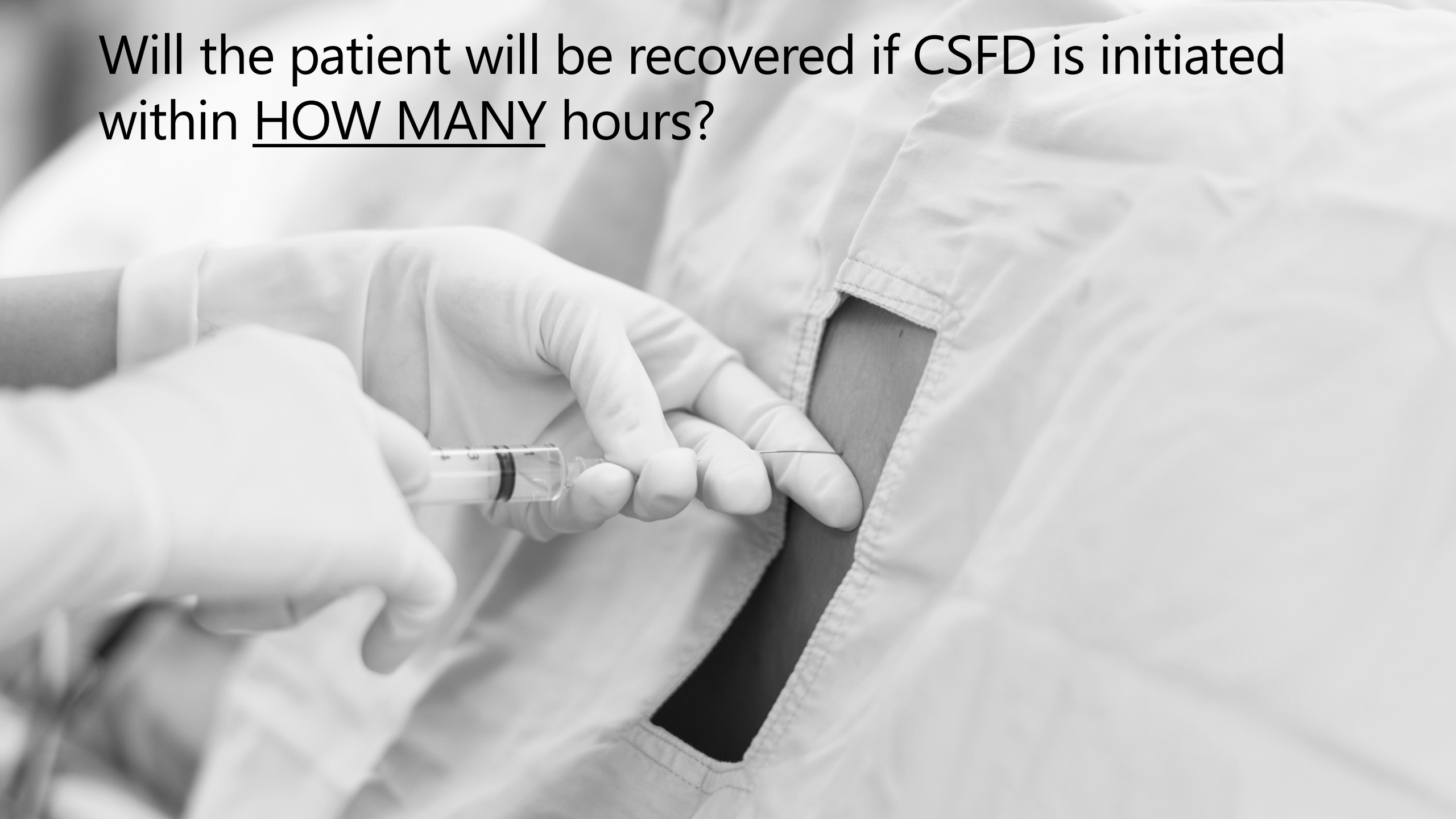


Postoperative cerebrospinal fluid drainage was effective



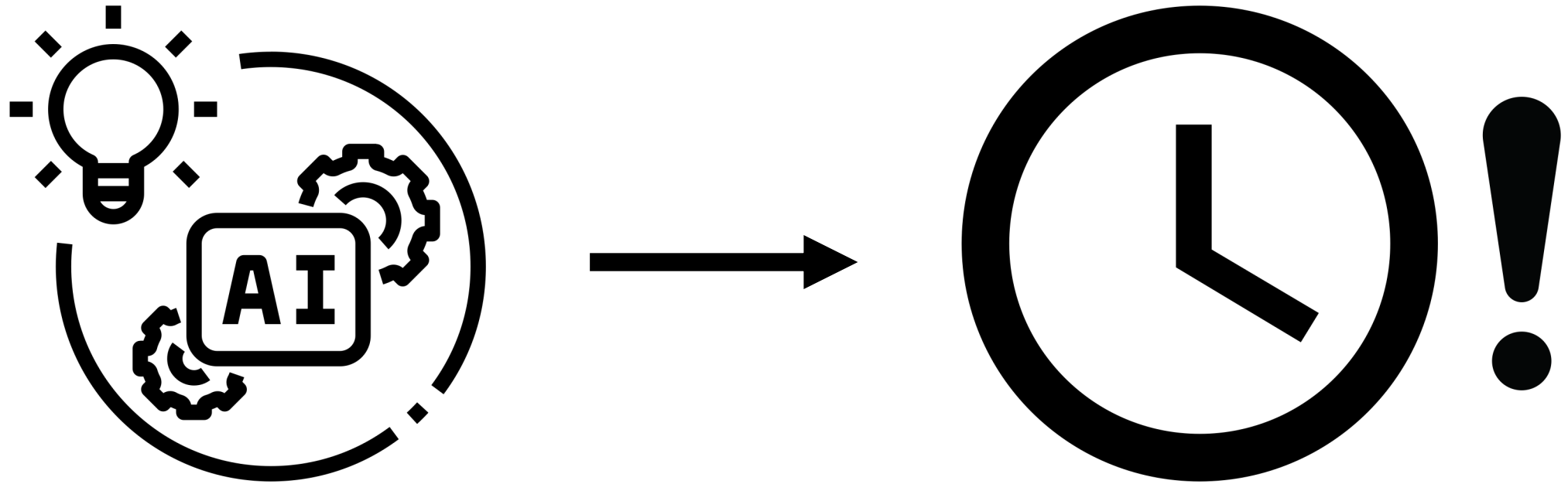
Nakajima et al. J Thorac Dis. 2023

Will the patient will be recovered if CSFD is initiated within HOW MANY hours?





Purpose



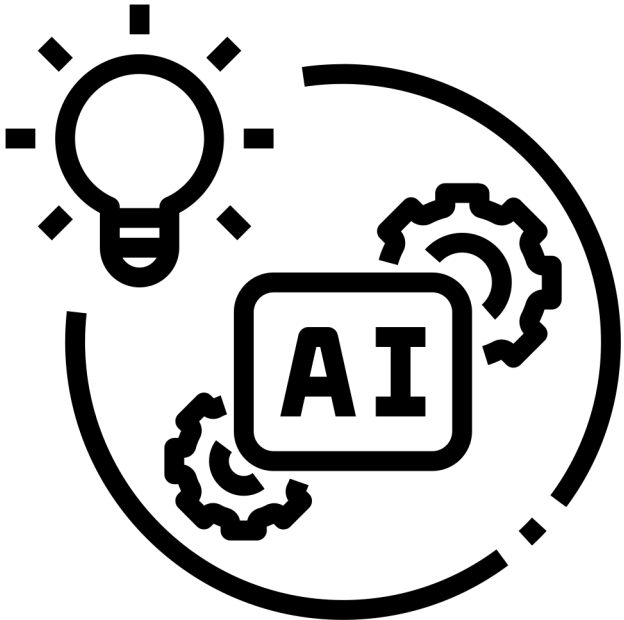
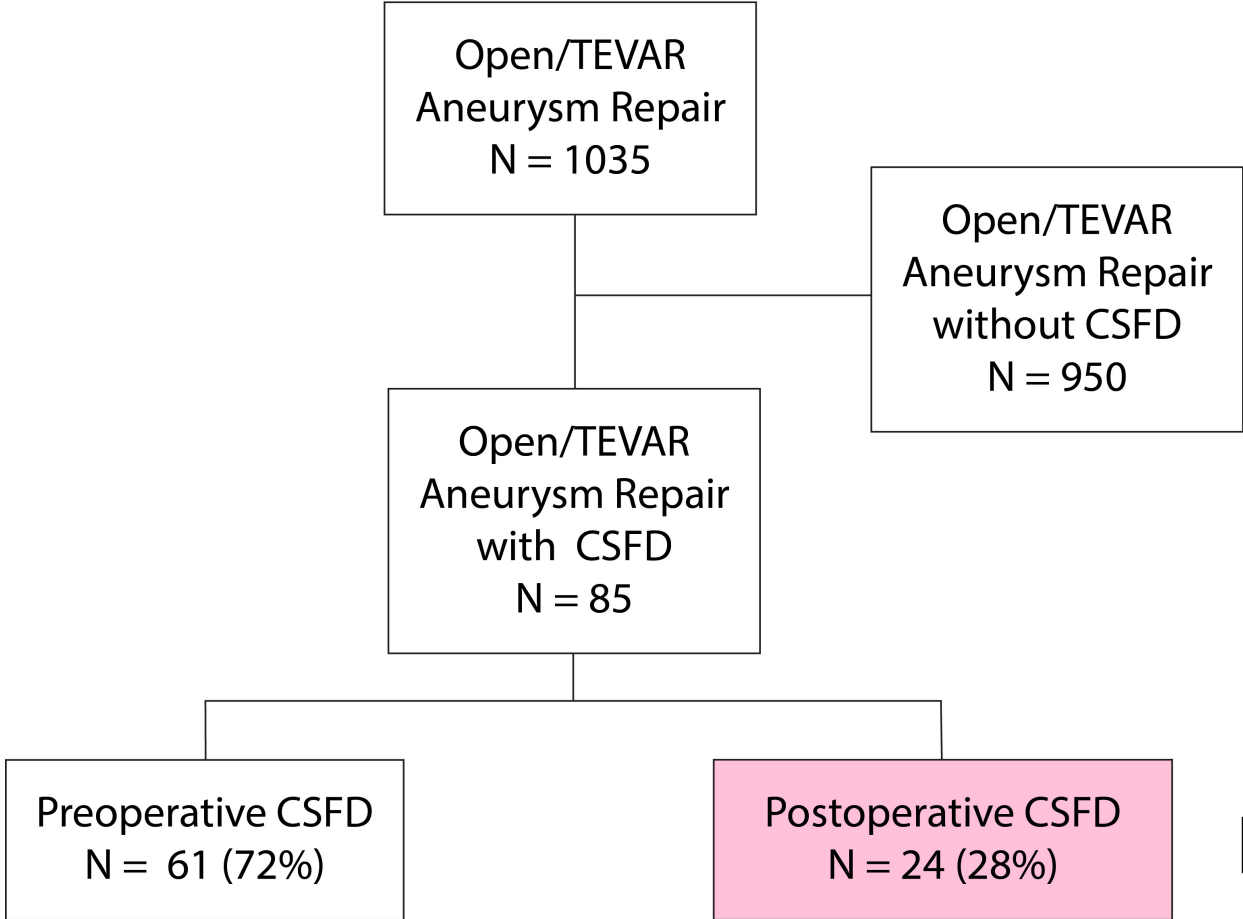
Detecting the Optimal Timing for Postoperative CSFD Using Machine Learning

A black and white photograph of a hospital ward. In the foreground, there are several medical monitors and control panels on a stand, slightly out of focus. The background shows a row of hospital beds with white linens, also blurred. A white cable hangs vertically from the top right. The word "Method" is written in a clean, black, sans-serif font in the upper right quadrant of the image.

Method

Patients with CSFD who have underwent thoracic aorta surgery

15 years (2006-2021)@Single center



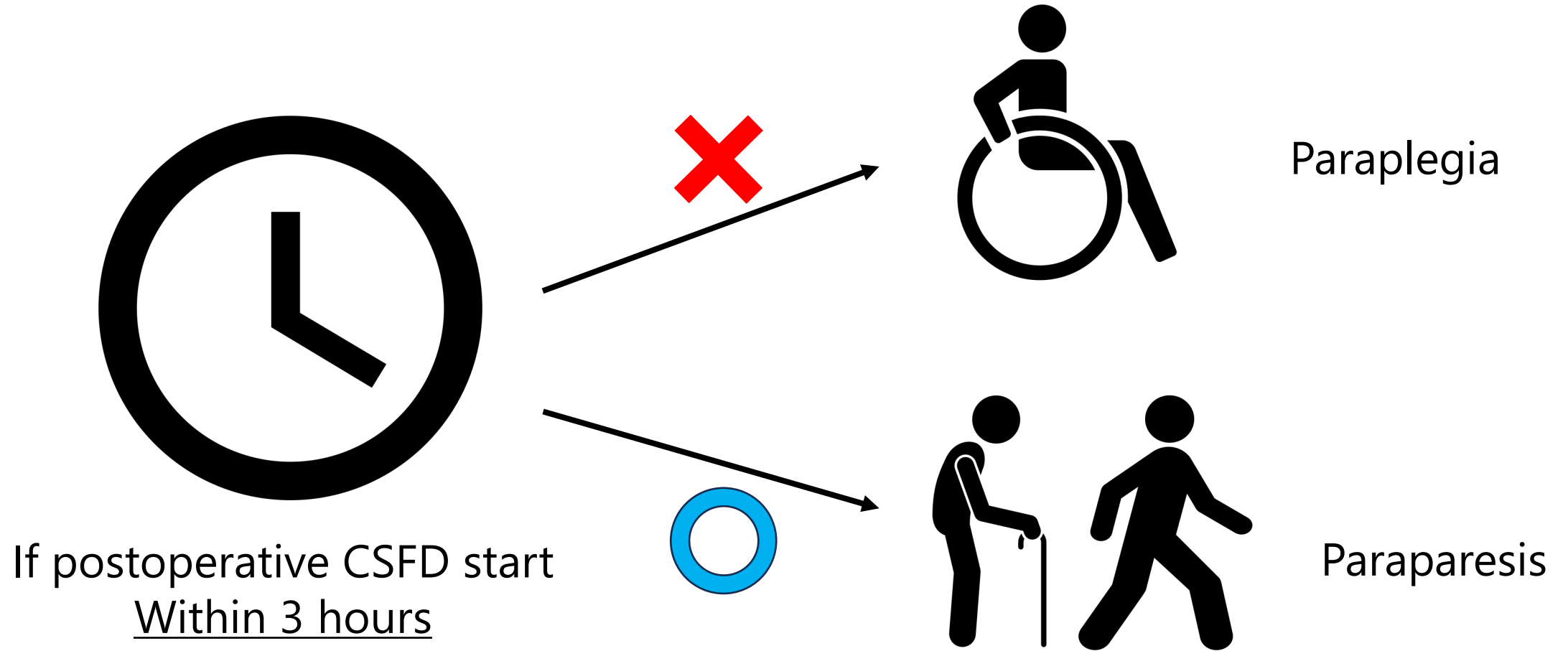
Software: Prediction One by SONY



Result



Machine learning analysis



AUC 0.956, the accuracy of this model 96%

Conclusion



Conclusion in this study



The analysis using machine learning revealed that in cases of thoracic aortic and thoracoabdominal surgery requiring postoperative CSFD, initiating CSFD within the first 3 hours results in avoiding paraplegia.