

Outcomes Among Military Recruits with Resolved Pericarditis or Myocarditis: A Retrospective Cohort

Emmanuel S. Sirat MD¹, Yael Sahar Kostis MD², Raphael A. Sirat MSc¹, Yigal Chechik MD MHA¹

¹Medical Classification and Occupational Health Branch, Israel Defense Forces Medical Corps, Tel Hashomer, Ramat Gan, Israel ✉ Emmanuel.Sirat@idf.il
²The Department of Occupational Medicine, Maccabi Health Services, Tel-Aviv, Israel

Introduction

- Pericarditis and Myocarditis are common clinical syndromes, predominantly affecting the young male population. Determining fitness for high-intensity jobs in patients recovered from these syndromes is thus a common clinical dilemma in the recruitment office. While activity restriction during the inflammatory phase is a well-established practice, long-term occupational ramifications are less documented. In the Israel Defense Forces, recruits are considered fit for combat 6 to 12 months post-recovery, given normal multimodal follow-up.
- In this study we aim to evaluate the long-term outcomes and recurrence risk in recruits with resolved myocarditis or pericarditis and whether exposure to high-intensity jobs affects these outcomes.

Methods

- All recruits between 2010 and 2024 with resolved pericarditis or myocarditis who completed 1 or more months of service and were considered cleared of cardiac restrictions for combat duty by a medical recruitment committee, were included. Suspected recurrences underwent manual chart review. Statistical analysis compared recurrence risk in combat, combat-support, and non-combat groups using descriptive statistics, equality of proportions, chi-squared tests, and time weighted Cox proportional hazards modeling.

Results

- The cohort consisted of **444 recruits** (109 pericarditis, **335 myocarditis**). Over 866.4 person-years of follow-up, **22 recruits had documented recurrence**. No cardiovascular mortality was observed. Recurrence rates in combat (n=137), combat support (n=69), and other roles (n=238) were 5.34%, 4.54%, and 5.30%, respectively, with **no significant differences observed** (p=0.96). Time weighted Cox survival analysis showed **no significant association between length of exposure to combat roles and recurrence risk** (fig. 1), nor was there temporal clustering (fig. 2).

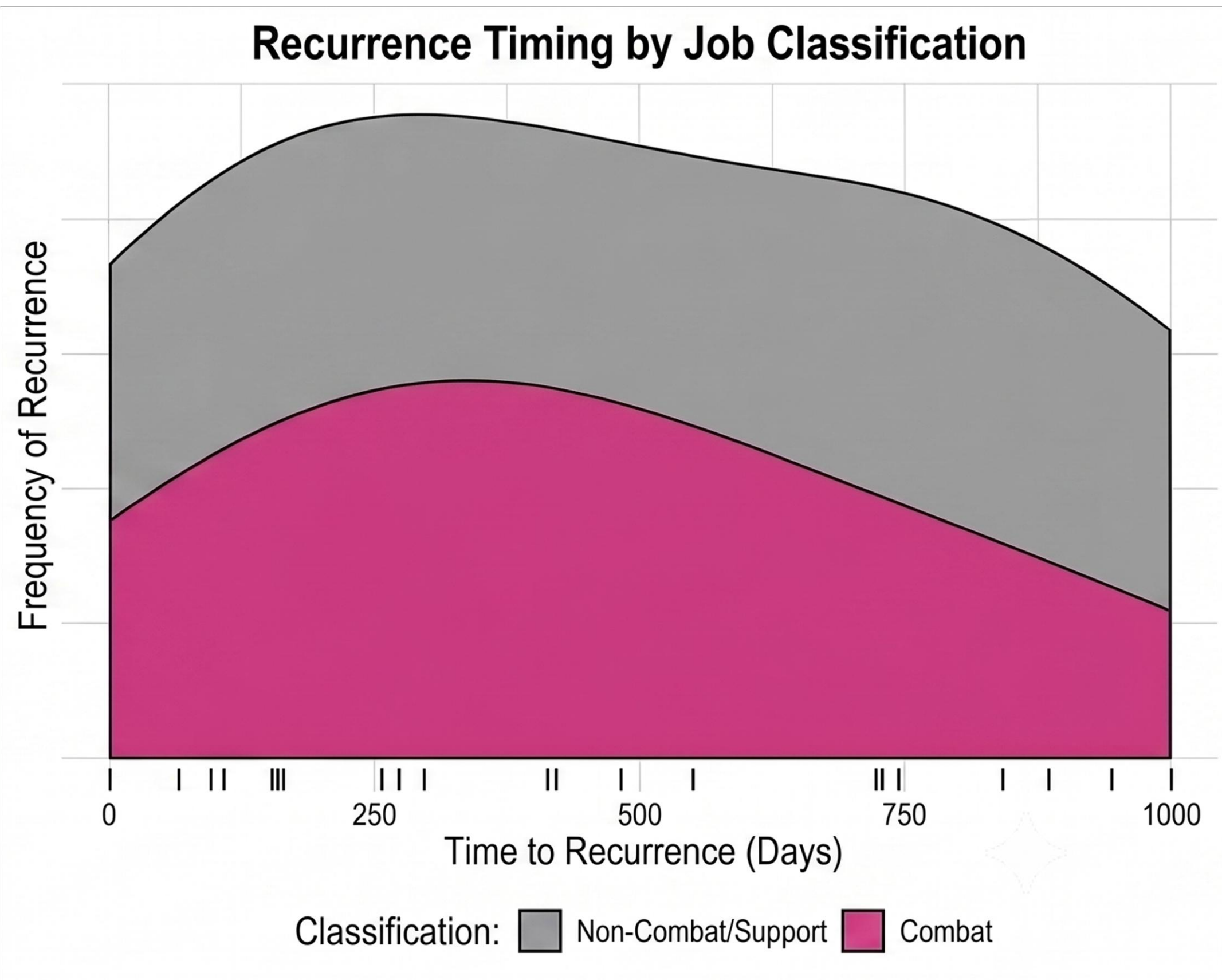


Figure 2 – Density plot illustrating the uniform distribution of recurrence events with no temporal clustering during service.

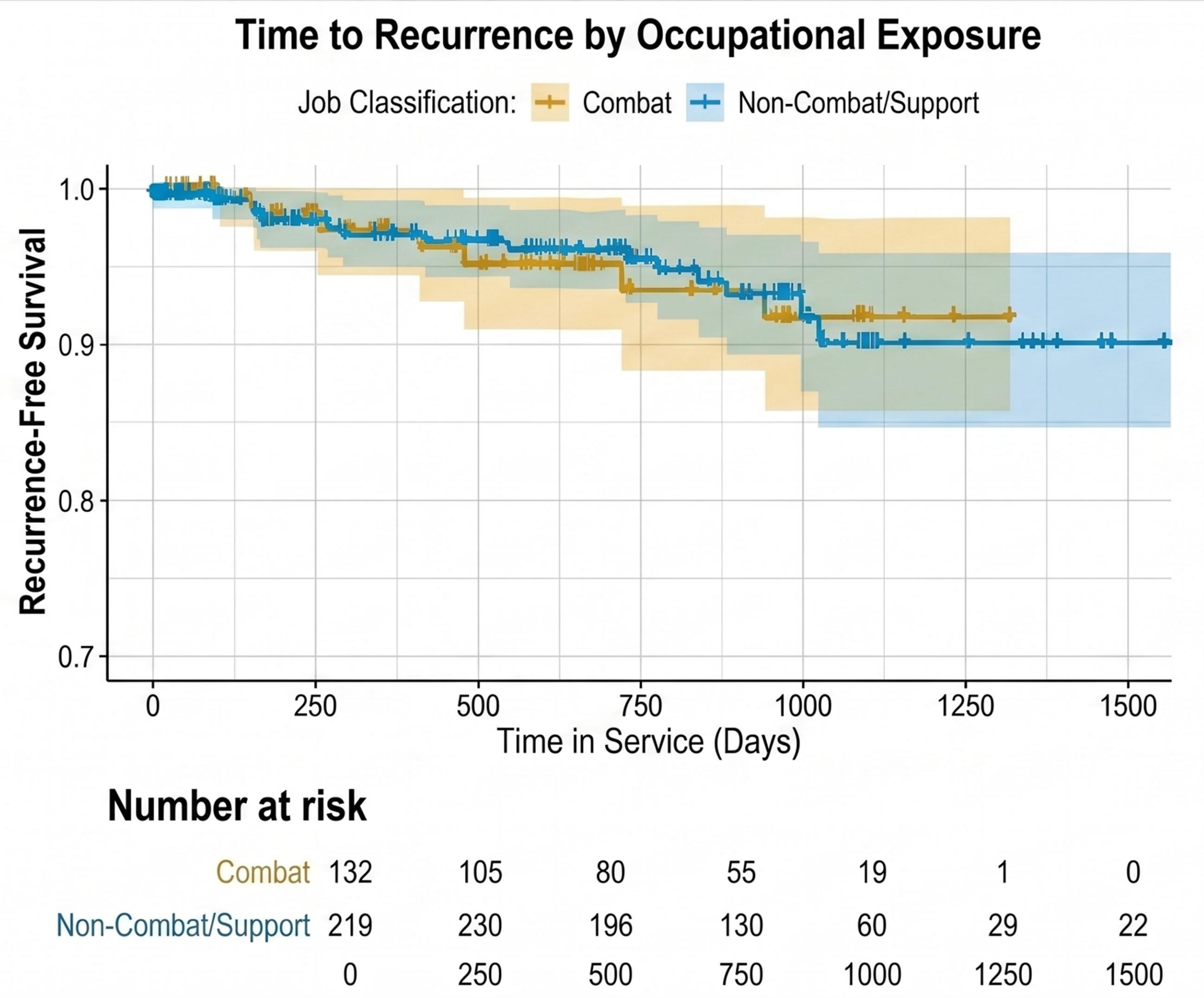


Figure 1 – Kaplan-Meier survival curve demonstrating no significant difference in recurrence-free survival between combat and non-combat assignments.

Conclusions

Young recruits recovering from pericarditis and myocarditis **showed low recurrence rates, no cardiovascular deaths, and no significant association between exposure to physically demanding combat roles and disease recurrence.** Our results support current guidelines and suggest recruits achieving full recovery can be safely enlisted to physically strenuous assignments. It should be noted that the lower-than-expected recurrence rate limits the statistical power of our study and prompts additional research to further strengthen our conclusions.



✉ Emmanuel.Sirat@idf.il

Abstract disclaimer: The authors declare that they have no conflicts of interest or disclosures relevant to the content of this abstract. All research procedures were conducted in accordance with established ethical guidelines and with the approval of the appropriate institutional review board. The findings presented are based on the data available at the time of submission and may be subject to further analysis or refinement.

