ANNALS OF
SURGERY OPEN

OPEN

Adjustment Reactions and the Surgical Intern

A Sequel

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Keywords: adjustment disorders, internship, surgery residency, surgical education

The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) continues to define adjustment disorders as psychiatric pathologies exhibited by the "development of emotional or behavioral symptoms in response to an identifiable stressor(s) occurring within 3 months of the onset of the stressor(s)."[1] Diagnostic criteria further define these symptoms to be "clinically significant," evidenced by "significant impairment in social, occupational, or other important areas of functioning." Over 4 decades ago, Dr. Theodore Pappas, then a surgical intern at Brigham and Women's Hospital, published a letter in *JAMA*, suggesting that his own maladaptive reaction to starting residency potentially met the diagnostic criteria for an adjustment disorder according to the DSM-III.[2]

In early July, I began my postgraduate training as a surgery resident at Duke University, where Dr. Pappas is now seemingly more adapted to his role in academic surgery as a Distinguished Professor and Master Surgeon. On the eve of my first inguinal hernia case with Pappas, I came across his *JAMA* letter and its reassurance of shared experiences. Upon reflection, I considered the dated diagnostic argument and compared it with my own experience. Accordingly, this report aims to serve as a lighthearted, reflective response to Pappas' 1982 *JAMA* article while proposing a genuine argument that working as a surgical intern continues to meet the updated DSM-5 criteria for the psychiatric derangements described as an adjustment disorder.

As Pappas suggested, clinical duty hours are one of the most evident causes of stress in residency. Admittedly, interns no longer take call every other night.[2] In 2003, the Accreditation Council for Graduate Medical Education (ACGME) limited duty hours to 80 per week.[3] In contrast, a 1980s surgical resident would typically work 100 to 130 weekly hours—a lenient schedule itself when compared with the original 168-hour workweek of residency structured by Dr. William Halsted in 1897.[4] Despite ACGME policy, residents today generally acknowledge its lack of enforcement, highlighted in a 2016 *New England Journal of Medicine* survey revealing that only 39% of surgical residents work less than 80 hours per week and over 70% exceed hours without reporting such violations to the ACGME.[5] A more recent report from the University of Michigan in 2023 corroborated similar rates of work hour violations, wherein residents estimated that they have 90 to 100 weekly hours of job responsibilities.[6]

Despite marginal improvements, resident hours and sleep deprivation remain primary drivers of poor clinical judgment and errors. Unlike Pappas, I have yet to mistakenly leave the hospital for psychological escape while on-call,[2] but I have certainly made careless errors as an intern. I shamefully recall once, after a sleepless night, ordering chest percussive therapy for a patient with respiratory congestion; my senior resident later questioned my treatment plan, given the patient was postoperative day 1 after a rib resection. My circadian arrhythmia similarly flared the day I removed all the staples from a lower extremity bypass incision, unfortunately, from the incorrect leg. My Apple Watch reminds me that I have averaged less than 5 hours of sleep per night since July. Yet, we rationalize such habits through comparison: how could I mention feeling tired after my senior resident and attending were scrubbed all night? Although defense mechanisms are not explicitly delineated in the DSM-5, Sigmund Freud introduced the concept of "rationalization" alongside other behavioral mechanisms that individuals exhibit in response to stress, anxiety, or guilt.[7] Pappas similarly commented on this behavior: we can still make convincing arguments that our own surgical training is easy simply because others were harder.

Overt sleep deprivation aside, the intern year highlights the inherent traumatic human experiences of working in a hospital. I posit that the transition from student to provider is similarly stressful today. Indeed, the first time we donned a white coat, we each took an Oath to uphold the responsibilities of a physician. Yet, medical school could never completely prepare us for the first day of July when those responsibilities are bestowed upon us overnight. Pappas described his index experiences at a cardiopulmonary arrest and navigating patient language barriers. While UpToDate and Language Line Solutions serve as useful tools in these challenging situations, they hardly alleviate the stress induced by relentlessly encountering problems for the first time—both in and out of the operating room—while further bearing a new responsibility to solve them. The compounding volume of stressful, new situations thus contributes to symptomatic responses characteristic of adjustment disorders.

Beyond high-acuity care, interns assume the burden of innumerable repetitive tasks. Moreover, electronic medical records and text-based communication now generate a persistent stream of noncritical notifications. During my last overnight shift, I received 213 EPIC chats and 19 pages. Constant communications not only dilute the educational value of training but further contribute to mental fatigue, thus exacerbating pathological emotions and behaviors. As alluded to by Pappas, these behaviors are rooted in Freudian psychological ego defense mechanisms. As exhausted, overstimulated residents, we often

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Disclosure: The authors declare that they have nothing to disclose.

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Annals of Surgery Open (2026) 1:e646

Received: 18 April 2025; Accepted 11 December 2025

Published online 15 January 2026

DOI: 10.1097/AS9.0000000000000646

resort to rationalization. For instance, on our busiest shifts, we may rationalize that hospital staff contact us for inconvenience rather than out of genuine concern for patient care: "Why does this incessant nurse keep messaging me about a patient who should have discharged yesterday? My other patients are actually sick." Overnight pages requesting to delete obsolete orders have been deemed unforgivable. Countless valid requests have been met irrationally with expletives and/or tears. Occasionally, we transfer our emotional burden to less threatening objects; Dr. Freud would have called this "displacement."[7] An emergency department computer monitor was once infamously punched in a moment of exhaustion. A stat page for a beeping wound vacuum was another consult pager's swan song. Hence, while learning the intricacies of medicine and surgery, the nuisances of learning how to be an intern further contribute to the pathological fatigue experienced in residency.

Some occupational stressors, particularly examinations and research, arguably demand more from trainees today. One obvious challenge is the American Board of Surgery In-Training Examination (ABSITE), administered annually to all surgical residents since 1975.[6] Some programs now use ABSITE performance for decision-making concerning remediation and promotion to the next postgraduate year.[8] Most interns also take the Step 3 United States Medical Licensing Examination. This task is often under-emphasized, despite requiring 16 hours of testing, costing nearly $1000 to sit for, and ultimately determining our eligibility for medical licensure. Finally, evolving standards of research productivity are evident by the increasing numbers of academic papers published by residents, as well as the incorporation of mandatory research time at many academic programs, extending the length of training from 5 years to 7 years.[9] Granted, expectations of research may be more specific to residents at academic medical centers. Nevertheless, demands of studying, practicing surgical skills, and participating in administrative roles amidst clinical duties are shared amongst university and community program residents alike. These responsibilities all seem to occupy the remaining gaps between 80 weekly clinical hours, altogether reminiscent of the Halstead curriculum.

The curriculum's paucity of self-care leaves surgical interns with an ostensible social impairment as we wonder when we might have time for dating, hobbies, exercise, family, or an extra hour of sleep. Evidently, the scope and depth of the surgical resident's responsibilities extend beyond reported duty hours, case logs, test performance, and h-index.[6] The impact of surgical residency on mental health is more challenging to quantify. Attempts at such measurement have estimated that over 40% of surgery residents are significantly mentally unwell and at risk for suicidal ideation.[6] The concept of physician burnout was not explicitly mentioned by Pappas, possibly due to the limited literature available at the time. However, contemporary studies indicate that surgical residents report burnout rates as high as 90%, surpassing those of any other healthcare professional in any specialty.[10] Exceedingly high rates of burnout raise a concern—beyond the scope of this article—that the psychological effects of surgical residency may persist beyond the transience of the adjustment period.

In summary, this paper provides a reflective response to the original argument posed by my advisor, Dr. Theodore Pappas, postulating that the stressful transition to surgical internship can incur behavioral sequelae so occupationally maladaptive and socially dysfunctional, such that it meets DSM-III criteria for an adjustment disorder with mixed disturbances of emotion and conduct. It is imperative to recognize that the diagnostic argument itself does not intend to trivialize the severity of other adjustment disorders. Rather, it seeks to utilize the diagnostic criteria as a framework to convey the intricate demands and implications associated with the job. Now, I will not hazard to suggest that surgical residency is still what it once was. Nevertheless, long days and demanding responsibilities of the resident doctor persist. The total burden of this transition reveals itself in careless mistakes, irrational frustrations, and emotional instabilities. I now realize, just as Pappas historically had 40 years prior, that the preoccupations of the surgical intern are more than a job; they often manifest as a genuine psychiatric disorder.

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