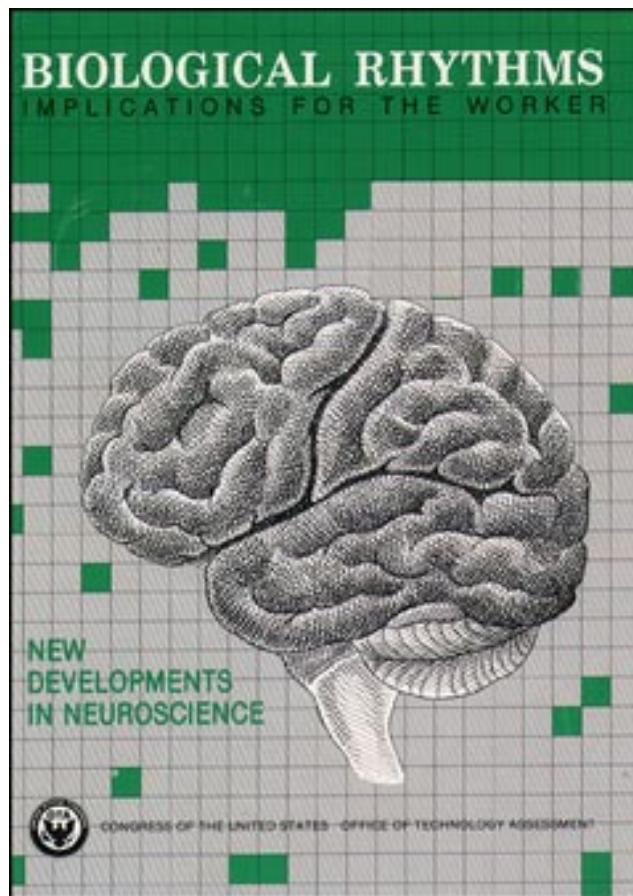


*Biological Rhythms: Implications for the  
Worker*

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# Foreword

Approximately 20 million Americans work some form of nonstandard work schedule. These schedules, which require that an individual work during nondaytime hours, noncontinuous hours, or for extended periods, are referred to as “shift work.” Recent advances in the understanding of the biological rhythms of the body and their control by the brain indicate that shift work can disrupt these rhythms, with possible adverse consequences for the worker.

This report is the third in a series of OTA studies being conducted under an assessment of “New Developments in Neuroscience.” It was requested by the House Committees on Appropriations; Energy and Commerce; Science, Space, and Technology; Veterans Affairs; and the Senate Subcommittee on Science, Technology, and Space of the Committee on Commerce, Science, and Transportation. The report discusses biological rhythms: what they are, how they are controlled by the brain, and the role they play in regulating physiological and cognitive functions. The major focus of the report is the examination of the effects of nonstandard work hours on biological rhythms and how these effects can interact with other factors to affect the health, performance, and safety of workers.

In addition, the report describes the Federal regulatory framework related to work hours and the current status of biological rhythm and shift work research. The report presents a range of options for congressional action related to the amount of research being conducted on these topics, the collection of relevant workplace statistical data, and the congressional role in ensuring the well-being of individuals engaged in nonstandard hours of work.

The first publication in OTA’s assessment of “New Developments in Neuroscience” was *Neurotoxicity: Identifying and Controlling Poisons of the Nervous System*, published in April 1990, and the second was *Neural Grafting: Repairing the Brain and Spinal Cord*, which was published in September 1990. OTA was assisted in preparing this study by a panel of advisers, a workshop group, and reviewers selected for their expertise and diverse points of view on the issues covered by the assessment. OTA gratefully acknowledges the contribution of each of these individuals. As with all OTA reports, responsibility for the content of this report is OTA’s alone. The report does not necessarily constitute the consensus or endorsement of the advisory panel, the workshop group, the reviewers, or the Technology Assessment Board.



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NOTE: OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by the advisory and study panel members. The panels do not, however, necessarily approve, disapprove, or endorse this background paper. OTA assumes full responsibility for the report and the accuracy of its contents.

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<sup>1</sup>Through September 1989.

<sup>2</sup>Through January 1991.

<sup>3</sup>Through August 1989.

<sup>4</sup>Through May 1989.

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