

How Stroke Shaped the Course of History: An Uchronian Narrative Review

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Dear Sir:

Historians once focused almost exclusively on momentous events and towering personalities, but in 1935, Marc Bloch challenged the "great man" paradigm when he asked Lucien Febvre, "Have you ever reflected on the problem of jam?," a call to study processes and ordinary lives that also shape the past.¹ While historians shifted focus towards larger processes, medicine took the opposite path, deriving universal principles through rigorous experimentation before evolving into precision care.²

Stroke accounts for 10.7% of global deaths and 5.6% of all disability-adjusted life-years.³ Recent medical advancements have dramatically improved outcomes, including stroke unit care (1991), intravenous thrombolysis (1995), and mechanical thrombectomy (2015). With numbers needed to treat of 18.8, 10.9, and 2.6, respectively, these therapies showcase their profound game-changing potential (Table 1).⁴⁻⁶

This narrative review investigates the effects of contemporary therapy on individual patients, enabling readers to consider the implications of treatment for each patient and how such interventions may alter an individual's life and, ultimately, influence the course of history. To do so, we explored the theoretical (mostly uchronian) potential impact of these treatments on human History. The question is: "How would history have unfolded if these great personalities were treated with modern knowledge?" Through this approach, we sought to illuminate the potential wider societal impacts of stroke care by influencing individual patients.

We screened English-language biographies, journal articles, neurology case reports, and historical monographs (1860–2025) for public figures whose stroke had (1) reliable clinical documen-

tation and (2) a recognized impact on national or global state-level decisions within 5 years. Those whose neurological events were disputed (e.g., transient ischemic attacks) or whose influence was marginal or short-lived were excluded. Contemporary "success" cases were required to show documented functional recovery, enabling return to public duties.

Table 2 presents eight cases from Wilson to Pope Bergoglio where strokes disrupted major political initiatives.^{7,8} Each case connects the neurological event to scenarios where modern treatments like thrombectomy and advanced care could have maintained their leadership, affecting post-war agreements and geopolitical outcomes. The question is: "How would history have unfolded if these great personalities were treated with modern knowledge?"

Table 3 demonstrates the impact of modern stroke systems through U.S. Senator Mark S. Kirk and journalist Andrew Marr, who resumed careers after receiving timely reperfusion and neuro-rehabilitation. Their recovery demonstrates the success of endovascular therapy, while highlighting societal benefits such as increased funding and public awareness.

This narrative review aimed to demonstrate the deep impact stroke treatment can have on both individuals and society, encapsulated in the motto that: "Every single patient counts." While stroke may often be seen through the lens of individual survival, it is crucial to recognize the broader societal implications, particularly for public figures. To capture this elusive dimension, we examined the medical histories of prominent figures, using their experiences as case studies to explore how stroke care (or lack thereof) can dramatically alter the course of history. These case studies invite readers to project the personal consequences of

these medical events on a larger population, urging them to consider what the world might look like if modern stroke interventions were available at the time. Although counterfactual history cannot provide conclusive evidence, the instances highlighted

in this review illustrate the potential large-scale political effects of a stroke. It is crucial to recognize intellectual traditions like structural functionalism and Marxism, which emphasize these processes by suggesting that historical figures often intercept

Table 1. Advances in stroke treatment

Therapeutic advance	Year introduced	Description	Impact	NNT
Stroke units	1991	Specialized hospital units for managing acute stroke patients that have shown to significantly improve patient outcomes	Significant reduction in mortality and disability in acute stroke patients	18.8
rt-PA	1995	Intravenous administration of rt-PA for acute ischemic stroke within a 4.5-hour window to dissolve clots and restore blood flow	Reduced disability and mortality in ischemic stroke patients if administered within 4.5 hours of symptom onset	10.9
Mechanical thrombectomy	2015	Endovascular techniques for removing large vessel clots in ischemic stroke, providing substantial benefit within 6 hours of symptom onset	Increased functional independence and reduced disability in patients with acute ischemic stroke due to large vessel occlusion	2.6

NNT, number needed to treated; rt-PA, recombinant tissue plasminogen activator.

Table 2. Histories of unfulfilled agendas

Historical figure	Stroke (year)	Role	Immediate neurological impact	Modern clinical management (hypothetical)	Counterfactual impact with modern care
Woodrow Wilson	1919	U.S. President during WWI	Large right-hemispheric infarct → hemiparesis & neglect	Wilson's right-hemispheric ischemic stroke today would likely have benefited from mechanical thrombectomy with a high chance of functional recovery within a few months.	Likely ratification of the Treaty of Versailles and U.S. membership in the League of Nations, strengthening collective security
Vladimir Lenin	1922–1924	Leader of Soviet Russia during the revolution	Recurrent ischemic strokes → aphasia, hemiplegia	Rigorous secondary prevention (antiplatelets, anticoagulants, blood pressure management) would have significantly reduced the recurrence risk.	Extended influence of the New Economic Policy, potential prevention of Stalinist purges
Joseph Stalin	1953	Leader of USSR during WWII	Hypertensive intracerebral hemorrhage → death	Modern intensive management (aggressive blood pressure control, emergency neurosurgery to evacuate the hematoma) could have provided survival and functional recovery.	Continuation of Stalin's leadership, potentially delaying Khrushchev's thaw and Cold War dynamics
Franklin D. Roosevelt	1945	U.S. President during WWII and Great Depression	Massive cerebral hemorrhage → death	Today, urgent neurosurgery and neurocritical care postoperatively might have contained hemorrhage effects.	Potential easing of post-war U.S.–USSR tensions, softening the "Iron Curtain"
Winston Churchill	1955	British Prime Minister during WWII	Multiple strokes → cognitive slowing, paresis	Modern protocols would include aggressive secondary prevention and intensive rehabilitation to regain neurological and cognitive function.	Possibly avoiding the Suez Crisis, preserving British geopolitical standing
Enrico Berlinguer	1984	Leader of the Italian Communist Party	Massive stroke → death	Modern emergency therapies (early thrombectomy or thrombolysis, advanced neurocritical care) could have stabilized the neurological condition rapidly.	Continuation of the "historical compromise," potentially enabling the PCI to become the main governing force in the West
Ariel Sharon	2006/2014	Israeli Prime Minister	Hemorrhagic stroke → death	Emergency neurosurgery and advanced neurocritical care could have improved survival and residual quality of life.	Continuation of Gaza disengagement policy, potential positive influence on Middle Eastern negotiations
Jorge Mario Bergoglio	2025	Pope of the Catholic Church	Hemorrhagic stroke → death	Prompt neurosurgical intervention and specialized neurocritical care could have offered significant survival and recovery potential.	Continuation of the Church's globalization process, emphasizing non-European countries

WWI, World War I; USSR, Union of Soviet Socialist Republics; WWII, World War II; PCI, Partito Comunista Italiano.

Table 3. Histories of recovery

Figure	Stroke (year)	Role	Treatment & outcome	Historical significance
Mark S. Kirk	2012	U.S. Senator	Endovascular thrombectomy + rehab → returned to Senate in 2013	Demonstrated feasibility of rapid thrombectomy pathways in a public figure, boosting U.S. funding for stroke systems of care.
Andrew Marr	2013	BBC journalist	Stroke → back on air in 2014	Became a visible advocate for exercise and hypertension control, spurring UK public-health campaigns.

rather than initiate broader historical forces. While it might be seen as overly simplistic to link a nation's destiny to a single individual, the theory of critical junctures suggests that one decision or person can indeed change the course of history.⁹ A critical juncture is described as a short period of significant change where the decisions of actors decisively influence institutions and paths, leading to enduring consequences that are challenging to reverse.⁹ Additionally, the main goal of this review is to encourage reflection on the impact of treatment on individual patients, rather than on counterfactual history itself.

Had President Wilson's middle cerebral artery occlusion been relieved with modern thrombectomy? Or had Chairman Lenin benefited from rigorous secondary prevention, the 20th century might have unfolded very differently? Wilson, who struggled with significant neurological deficits post-stroke, was unable to participate in the post-World War I negotiations, possibly delaying or altering the political landscape of the interwar period. Similarly, Lenin's strokes contributed to a power vacuum in the Soviet Union, accelerating Stalin's rise and subsequent policies. With modern stroke interventions, these events may have played out radically differently.

In contrast, the recovery of Kirk and Marr demonstrated the impact of timely reperfusion, neurocritical care, and organized rehabilitation. Their recovery highlights how modern stroke care can preserve not only individual dignity but also the continuity of civic roles, showing that effective intervention can allow for a return to leadership and public service.

This study had limitations. Selection bias exists, as the analyzed figures are mainly from Anglophone and European backgrounds. Many strokes in non-Western regions remain undocumented. Diagnostic certainty from the pre-imaging era is challenging, as strokes were often misdiagnosed without modern imaging. Data from secondary sources may introduce biases. Counterfactual reasoning remains speculative, as we cannot know how history would have unfolded with modern care. While attributing historical change to individual leaders' survival may be reductive given structural forces and institutional dynamics, the framework of critical junctures suggests that individual agency can shape historical trajectories.

In conclusion, this review reinforces that investment in stroke prevention and treatment supports societal stability. Stroke is

an acute disease that strikes suddenly without allowing individuals or families to prepare, unlike chronic conditions such as cancer. These conditions profoundly affect individuals, families, and society. Recognizing the impact of cerebrovascular events on individuals' lives and contemporary stroke care's role in maintaining leadership and societal stability underscores the global significance of advanced treatment. This study highlights stroke's capacity to transform societies, emphasizing the necessity of implementing stroke care globally.

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Conflicts of interest

The authors have no financial conflicts of interest.

Author contribution

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