# Chinese export restrictions on rare earth minerals threaten critical US medical care



Amid escalating trade tensions between the United States and China, new Chinese export restrictions on rare earth minerals are raising concerns over potential disruptions to critical medical care in the U.S. These rare earth elements—comprising a group of 17 metals essential for various sectors including defence, technology, and notably health care—are predominantly processed in China, which controls about 90 percent of the global supply of refined rare earths as of 2023.

The recent move by Beijing, which came into effect on 4 April, imposes export restrictions on seven additional rare earths, including gadolinium and yttrium. These minerals have what China designates as “dual use” applications, meaning they are vital for both civilian and military purposes. Companies exporting these minerals from China will now need to obtain permission, a process that could take up to 45 days, according to the Chinese Ministry of Commerce.

Medical experts and industry analysts are examining the far-reaching implications of these restrictions beyond the defence sector. Rare earths like gadolinium play a critical role in medical diagnostics; it is used in contrast fluids injected into patients during MRI scans to enhance the detection of conditions such as brain tumours. Professor Thomas Grist of the University of Wisconsin at Madison explained the significance to The Washington Post: “It’s a very important agent to enhance contrast for MRI,” noting there are no direct alternatives should supplies tighten. He warned that any disruption in sourcing gadolinium could negatively affect patient care.

Further concerns extend to other rare earths on the restricted list, such as lutetium and yttrium, which are integral in radiopharmaceuticals and medical technologies like lasers used to treat cancers including lung tumours. U.S. Geological Survey data indicates that between 2020 and 2023, approximately 93 percent of U.S. imports of yttrium compounds originated from China.

The U.S. health-care system is also dependent on a broad range of other medical products from China, including pharmaceuticals, antibiotics, pain relievers, bandages, and precursor chemicals for drug manufacture. Chinese pharmaceutical exports to the U.S. have grown significantly, reaching $19 billion in 2024, representing an 11 percent increase. Such dependence has generated apprehension about vulnerabilities should geopolitical disputes further strain trade relations.

This situation is exacerbated by U.S. plans to impose tariffs on foreign-made pharmaceuticals, announced recently by President Donald Trump, which experts fear could intensify supply chain challenges. Gracelin Baskaran, a critical minerals expert at the Center for Strategic and International Studies, underscored the broader ramifications: “Rare earths are a critical input for many of the medical technologies that we rely on not only for diagnostics but also treatment,” she said. Baskaran also highlighted the risk that countries might prioritise rare earth supplies for defence uses at the expense of health care, stating, “Ultimately, this has consequences for things like cancer treatment and your ability to get diagnosed.”

Chinese industry insiders characterise the export controls as a strategic move designed to encourage negotiations, with Mei Xinyu, a senior researcher at the Chinese Academy of International Trade and Economic Cooperation, describing the approach as a method to “force the opponent to talk things over,” while seeking to “minimise the impact on the economy and population of our trading partners.” Nevertheless, some Chinese exporters such as Shanghai-based Greenearth Chemicals have halted all exports of relevant materials since the policy change, potentially signalling more immediate supply disruptions.

Medical supply companies are actively monitoring the unfolding situation. GE HealthCare, headquartered in Chicago and a major producer of gadolinium-based contrast agents, reported to The Washington Post that it maintains “a large extended inventory for gadolinium on hand” and is exploring alternative sources beyond China. Similarly, Bayer, a German pharmaceutical firm, indicated that although its gadolinium currently originates from China, it employs a diverse global supplier network and foresees no immediate impact on supplies for U.S. patients.

The current scenario recalls previous supply challenges during the COVID-19 pandemic when lockdown-related factory closures in China led to shortages of iodine-based contrast agents crucial for CT scans. Professor Grist remarked on that experience: “It was very difficult for a period of time because there was a sudden cutoff in our supply. We all had to figure out ways to reduce the amount of contrast that we used—we delayed certain exams; we had to be creative.”

In the broader geopolitical context, China’s dominance over rare earth processing has been leveraged previously. For instance, in 2010, China restricted critical mineral exports during a territorial dispute with Japan, and more recently, it banned exports of metals vital to electronics and semiconductors following U.S. technology restrictions. The Centre for Strategic and International Studies expert Baskaran reflected on the potential global impacts: “They will now go and determine who gets what, which is a really powerful form of geopolitical currency. The second countries start to have disruptions to medical services or medical supplies, particularly for things like cancer care, it’s extremely consequential to their population.”

Chinese industry associations have sought to reassure international partners, emphasising that export controls target parties “engaged in activities that harm China’s national sovereignty, security and development interests,” and that normal business operations will not be affected. Mei also stated that export authorities would “fully consider the humanitarian needs of American patients.”

As these export controls unfold, the U.S. health-care sector faces considerable uncertainty about the long-term availability of rare earth minerals crucial to diagnostic and treatment technologies. While companies are actively managing inventories and sourcing alternatives, the widening trade dispute with China continues to cast a complex shadow over supply chains integral to patient care.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://www.csis.org/analysis/consequences-chinas-new-rare-earths-export-restrictions> - Details China's April 4 restrictions on seven rare earth elements, including gadolinium and yttrium, and explains their dual-use applications in defense and civilian sectors.
* <https://www.chathamhouse.org/2025/04/chinas-rare-earth-export-restrictions-threaten-washingtons-military-primacy> - Confirms China's control over 90% of rare earth processing and the specific inclusion of dysprosium and yttrium in export restrictions, critical for medical and defense technologies.
* <https://indianexpress.com/article/explained/explained-economics/china-restricts-exports-of-rare-earths-impact-9945497/> - Covers China's April 2025 export controls on seven rare earths, including gadolinium and lutetium, and their significance in medical diagnostics and cancer treatment technologies.
* <https://optilogic.com/resources/blog/how-chinas-rare-earth-metals-export-ban-will-impact-supply-chains/> - Discusses China's 2024-2025 strategic mineral export bans and their broader supply chain implications, including medical technology dependencies.
* <https://www.csis.org/analysis/consequences-chinas-new-rare-earths-export-restrictions> - Highlights the 2023 U.S. reliance on Chinese-processed rare earths and vulnerabilities in sectors like healthcare due to export licensing requirements.