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# Research Week 2024

## The Carbon Footprint of Orthopaedic Surgery Residency Interviews

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### Abstract

**Introduction:** At 1.4°C hotter than the pre-industrial average, 2023 was the hottest year in human history. As climate change escalates from an inconvenient truth to a global health crisis, we must reduce our individual and institutional carbon emissions wherever possible. The Association of American Medical Colleges (AAMC) recommends that residency interviews be conducted virtually to decrease costs, enhance equity, and lessen environmental impact. This study aims to 1) assess the current breakdown of in-person versus virtual residency interviews in orthopaedic surgery nationwide and 2) estimate the carbon emissions avoided by conducting only virtual interviews for orthopaedic surgery residency positions at OHSU this year.

**Methods:** The AAMC Electronic Residency Application Service (ERAS) directory provided a current list of orthopaedic surgery residencies. From here, the Orthopaedic Residency Information Network (ORIN) database was searched to determine virtual versus in-person interview format. Program coordinators for individual institutions were contacted when this information was unavailable. Google Flights and myclimate.org estimated carbon emissions from flying between each applicant's home medical school city and Portland, Oregon.

**Results:** ORIN contained interview format information for 135 of 202 (67%) orthopaedic surgery residency programs. Within this group, virtual interviews were slightly more common (53%) than in-person interviews (47%). OHSU's orthopaedic residency interviewed a total of 60 applicants in the 2023-2024 cycle. Virtual interviewing avoided a total of 53 metric tons of carbon dioxide emissions.

**Conclusions:** Although all residency interviews were conducted virtually during the height of the coronavirus pandemic, steady creep back to an in-person interview format has occurred in orthopaedic surgery despite AAMC recommendations. By choosing to conduct interview virtually, OHSU's orthopaedic surgery department avoided the equivalent greenhouse gas emissions of 5,964 gallons of gas burned, 6.4 million smartphones charged, or 10.3 homes' electricity used for one year.