

The purpose of this letter is to assist maternity medical providers by providing consistent information about the environment and physical nature of the wildland firefighting profession.

Dear Obstetrician, Family or General Practitioner, or Midwife,

This individual works in wildland fire. Please ask them what specifically their job is and the environment that they work in. Working on a wildfire means a high likelihood of being in a remote area, hours from a medical facility or definitive care. If they have an “arduous duty” position, they should also have a document titled “Essential Functions and Work Conditions of a Wildland Firefighter” for you to review.

As a baseline, this individual is required to participate in a Work Capacity Test annually for their fire position, a physical fitness test that tests whether they can meet the aerobic work capacity needed for the position duties. There are three levels: light, moderate, and arduous. The level needed is dependent on the fire position for which they have qualifications. All of these tests are quite brisk walks at basically 4 miles per hour. None of the tests are without risk as they are all, particularly the arduous duty test, concentrated periods of increased exertion that could exacerbate health conditions and/or result in increased risk for pregnant or post-partum individuals.

- For arduous duty, the “pack test” involves carrying a 45 lb. pack for 3 miles to be completed in 45 minutes.
- For moderate duty, the “field test” involves carrying a 25 lb. pack for 2 miles to be completed in 30 minutes.
- For light duty, the “walk test” involves walking 1 mile in 16 minutes.

For the job function itself, arduous duty wildland firefighting is typically a 12-16 hour shift of arduous work daily for 14-21 days in a smoky and dusty remote environment actively working on fire suppression. The particulate matter (PM) of concern in wildfire smoke, PM_{2.5}, can trigger a systemic inflammatory response that can affect vital organs such as the heart but also the placenta in pregnant women.* This environment can be very steep, slick, and uneven. They will carry a pack that will be about 34 pounds or more, and they may carry extra equipment depending on their job that may weigh an extra 20-30 pounds.

Positions whose duties are performed outside of fire camp and in the fire environment include but are not limited to the following risks:

- Exposure to the metals naturally in the dirt (e.g., lead, arsenic, copper).
- Significant heat produced by exertion, initial hikes of the day can increase the core body temperature to 102F.
- Performing at near maximal capacity, lifting heavy weight, and work that causes prolonged straining.
- Prolonged noise exposure from chainsaws and heavy machinery.
- Working long hours and/or at heavy labor on steep or uneven ground.
- Smoke - carbon monoxide, fine particulate matter (PM 2.5), heavy metals, and other toxin exposure.
- Dehydration

Thank you for your time and care of our employee. If you have any questions, please contact me at 208-387-5978.

Jennifer Symonds, D.O., USDA Forest Service, Fire and Aviation Management, Medical Officer

* Basilio, E.; Chen, R.; Fernandez, A.C.; Padula, A.M.; Robinson, J.F.; Gaw, S.L. Wildfire Smoke Exposure during Pregnancy: A Review of Potential Mechanisms of Placental Toxicity, Impact on Obstetric Outcomes, and Strategies to Reduce Exposure. *Int. J. Environ. Res. Public Health* **2022**, *19*, 13727.

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