

REPRODUCTIVE HEALTH: NOT JUST FOR WOMEN



Why This Topic Matters

Firefighters and rescuers face unique occupational exposures and stressors that can influence reproductive health. Not just for women, but for men, too.

From heat stress and smoke exposure to shift work and psychological strain, these factors can impact fertility, pregnancy outcomes, and long-term hormonal health for both men and women in the fire rescue service. This month's newsletter and corresponding lineup drill will highlight key risks, early signs to watch for, and steps you can take to protect yourself and your current or future family.

Occupational Risks

HEAT STRESS

Repeated exposure to high temperatures can temporarily reduce sperm count and motility in men and could disrupt menstrual cycles in women.

Protective Strategies:

- Hydration and electrolyte replacement (LiquidIV, DripDrop, LMNT, etc. along with water).
- Avoid prolonged heat exposure when off duty (hot tubs, saunas).

SMOKE, CHEMICALS, & CONTAMINANTS

Smoke contains PAHs, benzene, heavy metals, and endocrine-disrupting compounds. Over time, these exposures can impact fertility and pregnancy outcomes.

Mitigation Steps:

- Always wear SCBA until the environment is confirmed safe to remove.
- Use clear gear. Avoid wearing contaminated turnout gear in living quarters.
 - Change clothes worn under turnouts after fire operations. Have station shoes that are only worn inside the station.
- Shower within one hour after fire operations ("shower within the hour").

SHIFT WORK & SLEEP DISRUPTION

- Irregular sleep cycles affect hormone regulation for both men and women.

- Possible effects include:
- Reduced testosterone.
- Irregular menstrual cycles.
- Difficulty conceiving.
- [Check out the sleep health and hacking](#)
[handout linked HERE for tips on how to](#)
[better your sleep at work and at home!](#)

STRESS & MENTAL HEALTH

Chronic stress increases cortisol, which can interfere with reproductive hormones.

Healthy Practices:

- Debrief after critical incidents.
- Take advantage of department mental wellness services.
 - [Click HERE for the MCFRS Mental Wellness team!](#)
- Mindfulness or short breathing exercises during downtime.
- Regular exercise routine to regulate cortisol.

What You Can Do

In your career as a firefighter, it can seem impossible to feel in control of your health. There are some ways you can be proactive with your reproductive health. Check out some considerations for males and females below and in the attached lineup drill.

Considerations for Men

- Annual physicals with your primary care physician with reproductive health labs.
- Semen analysis if trying to conceive without success.
- Proper decontamination (PPE, skin, equipment)

Considerations for Women

- Discuss pregnancy planning with a health care provider familiar with fire service work.
- Early pregnancy notification for modified duties if desired.
- Rigorous PPE and decontamination practices.

Learn more about reproductive health in the attached lineup drill!



Dr. Kelsey Loftus

Certified Athletic Trainer
MCFR Health & Injury Prevention

Did you know that you have someone working within MCFRS to provide you with quality injury care, injury prevention, and functional assessments to lengthen your time on the floor and keep you out of FROMS?

IMPORTANT ANNOUNCEMENT!

Starting this year, all station visit requests will be submitted through the link attached to the QR code below. Any station in any battalion can sign up for a station visit with the choice of activities, now including:

- In-station injury clinic
- Sleep health and hacking round table discussion
- Trigger point release work
- Group instruction on prevention of common injuries (low back pain, shoulder immobility, or any area of your choosing!)
- And more!

Have an individual question about an ache or pain? Make an appointment through the link at the bottom of this page!*

***ALL APPOINTMENTS ARE SAFE AND CONFIDENTIAL AND CANNOT EFFECT YOUR ABILITY TO STAY ON THE FLOOR WORKING!**



kelsey.tanler@montgomerycountymd.gov



(240) 962-0147



Concentra

CLICK HERE TO MAKE AN INDIVIDUAL APPOINTMENT!

Reproductive Health Lineup Drill

Male and female firefighters encounter unique occupational hazards that can affect reproductive health. This handout provides evidence-based information to support you whether in family planning.

MALE FIREFIGHTERS FERTILITY & HORMONAL HEALTH

Occupational factors that can affect male reproductive health include:

- Heat exposure [elevated testicular temperature reduces sperm quality].
- Chemical exposure [benzene, PAHs, and PFAS can affect sperm count and motility].
- Chronic stress and disrupted sleep may reduce testosterone levels

Commonly observed effects:

- Decreased sperm count or motility [the sperm's ability to move correctly].
- Temporary reductions in testosterone after intense heat exposure.
- Increased oxidative stress in sperm.

Prevention:

- Effective cooling periods during long fire ground incidents.
- Limiting time in sealed gear when not necessary. Removing turnout coat during rehab.
- Using clean turnout gear and reducing station contamination.

WHAT EVERYONE SHOULD BE CONCERNED ABOUT

HEAT STRESS

High heat elevates core body temperature, which:

- Impairs sperm quality in men.
- Can disrupt ovulation in women.
- In pregnancy, core temperatures above recommended limits may increase risk of neural tube defects in early pregnancy.

Hydration and work/rest cycles are essential.

CHEMICAL EXPOSURES

Fire smoke contains a myriad of toxins which can:

- Disrupt hormones in men and women.
- Increase miscarriage or birth defect risk during the first 3 months of pregnancy.
- Increase risk of slowed fetal growth and impeded brain development or preterm labor in later exposures.
- Influence breast milk safety.

Decon procedures are extremely important, including:

- Wet soap and water cleaning of gear.
- Wipes for skin cleaning during rehab and after calls.
- "Shower within the hour" post fire operations.
- Keeping gear out of living areas- including station only footwear.

SHIFT WORK & SLEEP DEPRIVATION

Shift work can cause:

- Irregular menstrual cycles in women.
- Lower testosterone in men.
- Reduced fertility in men and women.

Promoting sleep hygiene and rest on off days can help.

FEMALE FIREFIGHTERS FERTILITY & MENSTRUAL HEALTH

Occupational factors that can affect female reproductive health include:

- Chronic heat exposure may disrupt menstrual regularity.
- Shift work and circadian rhythm disruption can affect ovulation.
- High physical stress load can lead to amenorrhea [missed periods].

What can help:

- Adequate hydration and cooling strategies.
- Sleep hacking and prioritizing naps and rest on off days.
- Monitoring menstrual cycles and seeking assessment by your primary care or gynecologist if cycles become irregular.

WHAT RESEARCH REVEALS

CLICK ON THE UNDERLINED TEXT WITH EACH FACT TO READ THE ARTICLE



"Female firefighters reported that nearly (25%) of their first pregnancies while in the fire service resulted in miscarriage and that increased to a third of pregnancies by their fourth." -Jahnke, Sara et al. [Maternal and Child Health Among Female Firefighters in the U.S.](#)

"In our main analyses, we observed that firefighters had a 33% lower mean AMH level compared to non-firefighters." Anti-müllerian hormone (AMH) is a clinical marker used to measure ovarian reserve in females and is used as a marker for responsiveness to fertility treatment. -Davidson, Samantha et al. [Anti-Müllerian Hormone Levels among Female Firefighters.](#)



"A meta-analysis (review of multiple studies) that pooled data from 29 studies in the fire fighter cancer literature revealed a statistically significant 34% increased risk for testicular cancer as it relates to the occupation." -IAFF [Male Reproductive Cancers and Firefighting.](#)

"Increased frequency of laundering, the wearing of a breathing apparatus during fire suppression and overhaul and showering post-incident were all found to have positive effects on semen quality."

-Engelsman, Michelle et al. [An Exploratory Analysis of Firefighter Reproduction through Survey Data and Biomonitoring.](#)

