

Five D.I.Y. Electrical Wiring Suggestions to Help Prevent Your Home from Going Up in Flames

[nfpa.org/News-and-Research/Publications-and-media/Blogs-Landing-Page/Safety-Source/Blog-Posts/2021/10/08/Five-DIY-Electrical-Wiring-Suggestions-to-Help-Prevent-Your-Home-from-Going-Up-in-Flames](https://www.nfpa.org/News-and-Research/Publications-and-media/Blogs-Landing-Page/Safety-Source/Blog-Posts/2021/10/08/Five-DIY-Electrical-Wiring-Suggestions-to-Help-Prevent-Your-Home-from-Going-Up-in-Flames)



By Corey Hannahs

It was one of those emails that just makes you cringe. Followed by a knot that just sits in the bottom of your stomach. A coworker had sent me yet another link to a major news publication's *Ask the "Expert"* article. Only they didn't put expert in quotes like I did. The publication really wanted the reader to believe that they were getting knowledgeable electrical advice from someone other than – an expert. While I am mostly certain that the intent was good, the advice unfortunately was not. Spending years in and around the construction trades does not make someone an expert in all areas construction. Being a master electrician with nearly 30 years of experience working alongside other trades does not provide me with the knowledge necessary to tell someone how to frame the structure of their home. I know many do-it-yourself (D.I.Y.) homeowners reach out to others for advice and something branded as getting answers from an expert certainly seems appealing, but electricity and errors don't mix. When it comes to electrical installations, even one small error can set ablaze an inferno of devastating consequences.

With this week being Fire Prevention Week, it seems like the perfect time to discuss why proper electrical wiring is so crucial to preventing fires in the home. In March 2019, NFPA conducted a research study analyzing home electrical fires on data captured between 2012-2016. One of the key findings from the study stated, "Home fires involving electrical failure or malfunction caused an estimated average of 440 civilian deaths and 1,250 civilian injuries

each year in 2012-2016, as well as an estimated \$1.3 billion in direct property damage a year.” When you look at this statistic knowing that people and property are likely the things you hold most dear, it would seem self-performing electrical wiring may pose too great of a risk. However, many still choose to take on that risk often based on the premise of saving money. But when it comes to protecting your family and possessions, money should not be the only determining factor. Getting the job done properly and safely needs to weigh heavily into the equation. Electricians spend years learning code requirements and the skills needed to perform installations in order to meet those code requirements. They are also required to take continuing education classes to keep up on current codes as a condition for license renewal. Without getting too Liam Neeson on you here, they have a special set of skills that they have acquired over the course of their careers that enable them to do the job properly. Skills that cannot be gathered from reading a how-to book or getting your questions answered from an *Ask the “Expert”* column in a periodical.

I will pose this question: would you let your closest loved one be operated on by a doctor who had never performed their residency? If your answer was “no,” then how can wiring a home without the skills acquired during a 4 to 5-year electrical apprenticeship be justifiable. Also considering that there are likely to be many more lives at stake when wiring a home versus a single person undergoing a surgery, it could be argued that doing so would be unfathomable. Yet it happens every day, many times over, by homeowners that choose to take that risk. This is not a sales pitch to ensure that electricians get all of the work, either. There is more work available in the foreseeable future than there are electricians to complete the work. My plea is solely based on safety and for homeowners to see, and fully consider, the immeasurable amount of risk they are applying to themselves, their families, and their possessions by performing electrical work that they are not properly trained for. And while I know I won’t be able to prevent everyone from performing their own electrical work, I can offer the following suggestions to help mitigate some of the risk:

1. **Hire an electrician.** One last attempt here, because it is that important. Electricians have been specifically trained in code requirements and possess the skills necessary to perform a code compliant installation. If you still choose to perform your own work, you can always come back to this advice. At any point you feel you are too far over your head, you can always throw in the towel and call an electrician to ensure the job gets done properly.

2. **Don't assume just because it works, that it is safe.** Just because you performed the work and the light comes on, does not mean that the installation was done properly. Maybe the wire that runs from the light switch to the light fixture has a small nick in it where a staple was installed that pinched the wire too much. Now the area where the wire is pinched is starting to arc behind the wall where it can't be seen and is coming close to igniting the paper backing on the insulation in the wall next to it. I have been on countless service calls in my years as an electrician where, after fixing the problem(s), I left the home wondering how it hadn't gone up in flames.
3. **Follow the latest version of the *National Electrical Code*® (NEC®).** Updates are made to the NEC on a 3-year cycle. As of the date of this blog, the 2020 NEC is the most current version with the 2023 NEC to be published sometime in the Fall of 2022. In some local jurisdictions, they do not use the most current version of the NEC. In some cases, jurisdictions will eliminate some parts of the NEC from being enforced. Often this happens at the urging of special interest groups that are not necessarily looking out for the safety of the consumer, but more so the bottom-line dollar value. For example, some states have removed the arc-fault circuit interrupter (AFCI) requirements for specified areas of the home. Know that, regardless of the code cycle your local area is on and what may have been excluded, the NEC is the minimum requirement, and you can always do more. So, if you [read up on the safety that AFCI protection provides](#) and decide you want to install them in your home, by all means do so.
4. **Pull permits and get inspections.** Electrical inspectors, also known as the authority having jurisdiction (AHJ), are the final checks-and-balances piece for ensuring electrical safety regardless of who performed the work. They are the last line of defense for homeowners as to whether or not their home is safe from an electrical standpoint. While many D.I.Y. projects often go without the proper permits being pulled and inspection being performed, electrical is most definitely not an area where you want to go this route. It is also against the law and can result in heavy fines should you get caught. Not to mention the additional assumed risk you are taking by possibly having an insurance claim denied due to a negligence clause, should your home catch on fire or someone becomes injured due to improper electrical wiring, and no inspections were performed.
5. **Ask a REAL expert.** If you are going to do the work yourself and seek out the answers to your questions, find a real expert to give you accurate answers. I have found often that electrical inspectors are more than willing to answer questions on how to perform an installation before actual work gets done. That can save on the costly expense of additional labor and materials associated with redoing the same job twice. Asking around, you may also find an electrical contractor who is willing to perform a service call to check your work and give you advice. The point is, whomever you choose to seek out for the answers to your questions, make sure he/she is an electrically knowledgeable source.

When it comes to electrical installations, there is little room for error. While we all must make personal decisions as to the amount of risk we want to assume, we also have the ability to seek out the information needed to help manage any assumed risk. Although homeowners are often legally allowed to do their own electrical work, hiring a licensed electrician to do the work would be the best choice to mitigate risk. If they still choose to do the work themselves, it can be better managed by understanding the current code requirements and seeking out any advice needed from credible sources. With people and property involved and so much weighing on a proper electrical installation, it is crucial to get it right. To err is human but electricity does not know forgiveness.

Important Notice: Any opinion expressed in this correspondence is the personal opinion of the author and does not necessarily represent the official position of the NFPA or its Technical Committees. In addition, this correspondence is neither intended, nor should it be relied upon, to provide professional consultation or services.

Important Notice: Any opinion expressed in this column (blog, article) is the opinion of the author and does not necessarily represent the official position of NFPA or its Technical Committees. In addition, this piece is neither intended, nor should it be relied upon, to provide professional consultation or services.

TOPICS:

- [Electrical](#),
- [Public Education](#)

Sign up for the NFPA Network Newsletter

[Sign Up](#)

Corey Hannahs

Senior Electrical Content Specialist

[Read more By Corey Hannahs](#)

