

**CBC Radio London Morning Interview (February 13, 2018)**

CBC Host: ... Fighters are known for their bodies, publishing calendars as fundraisers. But what the pictures don't show is the physical pain many say they feel – knees, back and neck pain are all too common in the profession.

My next guest has spent time talking to Ontario firefighters about the toll the job takes on their bodies. Joy MacDermid is the Director of Clinical Research at the Hand and Upper Limb Clinic at St. Joseph's Hospital here in London, and she joins me now on the line. Good morning.

MacDermid: Good morning.

CBC Host: What did firefighters tell you about how their bodies feel?

MacDermid: Well this was a study that we did with firefighters in a single city. There's almost 300 of them and they actually came in and filled out forms and talked to us about where, parts of their body they were experiencing pain due to musculoskeletal injuries. And we found that about 40% of them had problems with their upper extremities or arms, and about 45% with their legs. A third had problems in their lower back and 20% had neck pain. So overall that represents almost half of firefighters that have musculoskeletal problems in at least one area of their body.

CBC Host: Were you surprised with what you found when these firefighters came in and identified how much pain they were experiencing and where they were feeling the pain?

MacDermid: We did know from – there are studies in other areas of the world showing that firefighters and in fact other emergency personnel have high rates of musculoskeletal injuries. So we weren't totally shocked but it was a very high rate, and so we were quite alarmed in terms of the burden that this represents to firefighters and also indicated to us some things that we need to pay attention to in terms of maybe preventing or managing those injuries.

CBC Host: You say they call themselves the working wounded. Can you describe – if you could sum up the physical state of one of the firefighters who use that term?

MacDermid: Yeah, so that was a term I heard from a firefighter, and I think it reflects the high level of commitment they have to their communities that they want to continue serving. They're exposed to some very difficult job situations, awkward postures. They obviously have to respond very quickly, do very high levels of work, very difficult work, and that that causes injury. But they're so committed to doing that work that they continue to work despite the problems that they have.

And one of the things we found in the study of course is that people who work longer had more musculoskeletal problems, more areas affected and more severe problems. And so that reflects that ongoing exposure that they have to difficult work.

**CBC Host:** How does the pain factor firefighters experience compare to others, to the general population?

**MacDermid:** It's very difficult to compare firefighters, and some of the instruments we have aren't that suited to testing the high level of difficulty that firefighters have to do, of course. That is an area that we're continuing to work on in our research is to develop better tools that are specific to firefighters. But we know from data that about 40% of the firefighters who retire early, because of medical problems, retire because of musculoskeletal problems.

So if it's not managed, it is something that can compromise their career and have it end early.

**CBC Host:** And obviously there's this link, as you say, between the job and the pain. Is it repetitive strain or an acute injury that turns chronic?

**MacDermid:** Well this study was cross-sectional so we have to be very careful not to say. We don't really know what causes the injuries; however, that is an area that our fighters will – collaboration is continuing to work on and looking at the way that fighters do tasks.

But we know for example that when fighters rush into a scene they often have to use tools to pull down debris from overhead in a very quick manner, and often with compromised breathing and [heating]. So that would obviously place them at risk of rotator cuff injuries or shoulder injuries. Carrying heavy – the high-rise packs that they have to wear for safety weigh about 50 pounds, and then they're pulling the hoses upstairs while carrying 50 pounds of protective equipment on their body. You can imagine that's hard on their knees. That probably explains the high rate of knee problems that they were reporting.

So we have ideas about the aspects of the job that are placing them at risk, but that is certainly an area that we're continuing to study.

**CBC Host:** Do they seek help quickly or is there a long period of time before firefighters get that help for their pain?

**MacDermid:** That is really variable from fire service to fire service. We recently looked at all the fire service websites across Canada. That's a different study but we did find that there's very limited information for firefighters about how they could maybe manage the risks of musculoskeletal injury, and if they do get some of these injuries how to manage them early.

So that is sort of one of the areas we will be focusing on in our future research is to try to develop some resources for firefighters to maybe



manage those problems at little bit earlier so that they can be resolved more quickly.

CBC Host: Okay, and just before I let you go, talk to me about prevention, what you want to see going forward.

MacDermid: One of the things we're doing is we're going into fire stations with firefighters and filming some of the tasks that they have to do with fire trucks and going upstairs with high-rise packs on. And we're filming those tasks and looking at what the zones are where we think the risks are, and see if maybe there are ways we could help firefighters train to do those tasks a little bit safer, or we could identify where the areas of risk are so that we could focus on or the things that we can do differently.

It won't be possibly obviously in all tasks because it is an emergency situation, but there may be things that we can identify that could be done more safely. For example, firefighters do very intensive training to prepare for the tasks that they have to do, and there are number of injuries that actually occur during that training. So maybe we could look at how the training is conducted to see if we could reduce some of those injuries.

CBC Host: Okay, thank you so much for your time this morning.

MacDermid: You are very welcome. Feel free to look at our website, [firewell.ca](http://firewell.ca), and you'll see some more of our work.

CBC Host: Okay, have a great day.