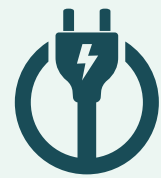


# INDUCTION COOKING SAFETY & IMPLANTED MEDICAL DEVICES



THE SWITCH IS ON



## SUMMARY

Research shows that induction is safe to use for individuals with implanted medical devices like pacemakers. Physicians still recommend exercising caution. Consult with a medical professional to determine what's right for you.

## CONTEXT & BACKGROUND

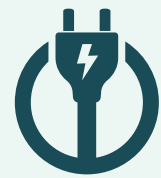
A pacemaker is a small medical device implanted in the chest to help regulate irregular heartbeats by sending electrical signals to the heart. The American Heart Association<sup>1</sup> notes that many types of consumer electronics and the technologies they use have the potential to interfere with pacemakers and implantable cardioverter defibrillators (ICDs) and caution patients to either limit their use or maintain a safe distance in order to avoid harm. One such technology noted is magnets. Induction hobs use electricity to generate medium-frequency electromagnetic fields (EMFs) that excite the ferrous (iron) contents of cookware to heat them from within.

## HUMAN TESTING

The target of much of the research in this area is focused on if there is a stray magnetic field that escapes to the larger area around the cooksurface and into the body of the user and if that has an effect on cardiovascular implantable electronic devices (CEIDs). These studies<sup>5,6</sup> positioned participants about 8.4 inches away from the induction hob, bending the upper body over it while in use on various power settings from low to maximum. Both studies concluded that there was no risk of interference with these implanted CEIDs from use of induction, even at close proximity to the EMF.

# INDUCTION COOKING SAFETY & IMPLANTED MEDICAL DEVICES

Continued



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## NON-HUMAN TESTING

Non-human research, primarily done on CEIDS not installed on a person, on the potential interference between the EMF induction hobs generate and CEIDs like these suggests that there is potential for interference, but many variables impact the potential risk and maintaining a safe distance is always an option to decrease risk.

Generally, stray medium-frequency EMFs are not thought to have a negative impact on health for individuals without CEIDs at levels produced by induction hobs, though research in this specific area is limited.<sup>7</sup>

Though research has demonstrated operating induction hobs with CEIDs can be done safely, some health professionals still recommend exercising caution.



Read our full review on the subject here.

## REFERENCES

**(1) American Heart Association**

Devices that May Interfere with ICDs and Pacemakers

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Electromagnetic interference in cardiac electronic implants caused by novel electrical appliances emitting electromagnetic fields in the intermediate frequency range: a systematic review

**Irnich, Bernstein, 2006.**

Do induction cooktops interfere with cardiac pacemakers?

**Tiikkaja, Alanko, Lindholm, Hietanen, Hartikainen, Toivonen, 2012.**

Experimental study on malfunction of pacemakers due to exposure to different external magnetic fields

**(5) Binggeli, Rickli, Ammann, Brunckhorst, Hufschmid, Luechinger, Duru, 2005.**

Induction ovens and electromagnetic interference: what is the risk for patients with implantable cardioverter defibrillators?

**(6) Rickli, Facchini, Brunner, Ammann, Sagmeister, Klaus, Angehrn, Luechinger, Duru, 2003.**

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**(7) Federal Office of Public Health, Switzerland, 2016.**

Induction Stoves and Electromagnetic Field Testing

**Dr. Mike Knapton, British Heart Foundation.**

Can I use an induction hob if I have a pacemaker?

**Hirose, Hida, Kokubo, Nie, Kobayashi, 2005.**

Electromagnetic interference of implantable unipolar cardiac pacemakers by an induction oven.