



## Occluders



Septal Occluder



PFO Occluder



Duct Occluder



VSD Occluder

**Platinum-coated Occluders  
Prevent Nickel Release**



## Prevalence of Nickel allergies

8–19% in adults  
8–10% in children & adolescents<sup>[1]</sup>

59.7% in  
overweight  
females compared  
to 12.5% in  
the general  
population<sup>[2]</sup>

17% women  
& 3% men<sup>[3]</sup>

39% of female  
students, 42% of  
females with  
pierced skin, and  
14% of females  
without pierced  
skin<sup>[4]</sup>

## Clinical manifestations of Nickel Allergies



Inflammation



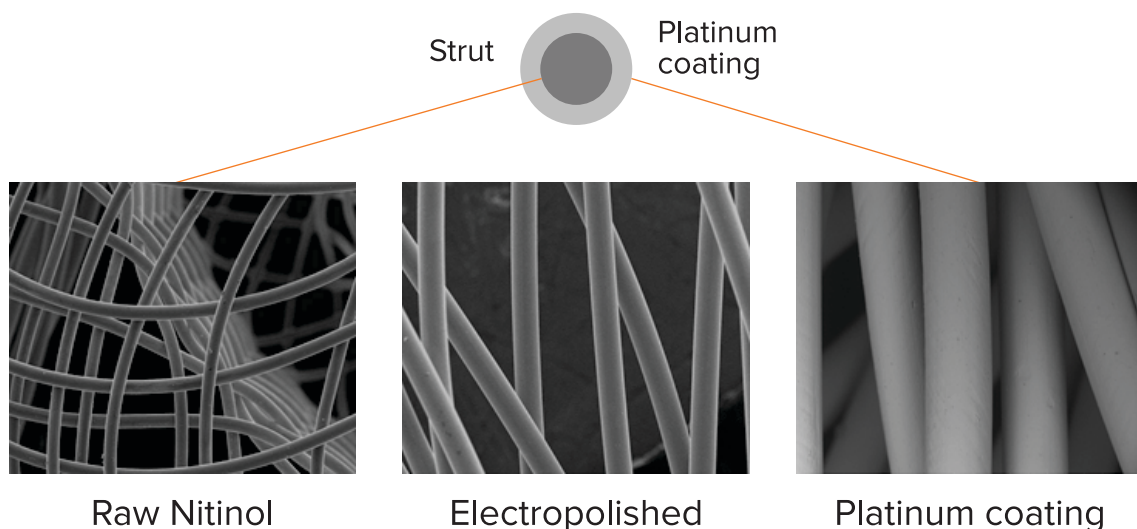
Urticaria



Inflammation

## How does Cocoon address these drawbacks?

- Cocoon Occluders are made of Platinum-coated Nitinol wires
- Platinum layer is up to 25 microns in thickness
- This Platinum coating makes the Cocoon Occluders inert, biocompatible, non-corrosive, non-allergic and also enhances radiopacity



### References

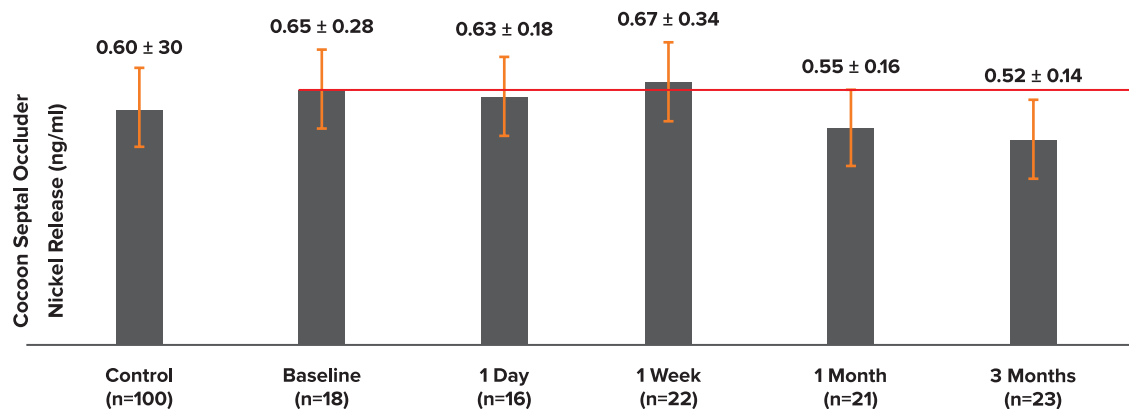
- [1] Contact Dermatitis. 2019 Oct;81(4):227-241 [2] PLoS One. 2015 Mar 30;10(3):e0123265  
[3] Chem Res Toxicol. 2010 Feb 15;23(2):309-18 [4] Contact Dermatitis. 2001 Apr;44(4):218-23

## Clinical evidence to demonstrate the impact of Platinum coating on Nickel release

Journal of Invasive Cardiology

### Self-expanding Platinum-coated Nitinol devices for transcatheter closure of atrial septal defect: Prevention of Nickel release<sup>[1]</sup>

Investigators: Pornthep Lertsapcharoen, Apichai Khongphatthanayothin, Suphot Srimahachota, Ruenreong Leelanukrom

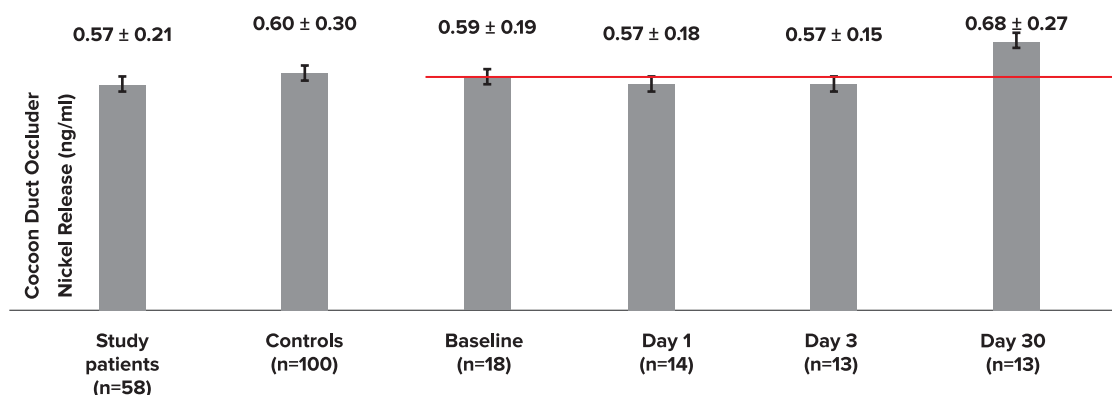


The patients' mean baseline serum Nickel levels was also not significantly different from that in the normal population (p value = 0.5)

Journal of Invasive Cardiology

### Transcatheter closure of patent ductus arteriosus with a self-expanding Platinum-coated Nitinol device<sup>[2]</sup>

Investigators: Pornthep Lertsapcharoen, Apichai Khongphatthanayothin, Vidhavas La-orkhun, Kanyalak Vithessonthi, Suphot Srimahachota



There was no statistical difference in serum Nickel concentrations between the pre- and post-implantation measurements

#### References

- [1] J Invasive Cardiol. 2008 Jun;20(6):279-83  
 [2] J Invasive Cardiol. 2009 Jun;21(6):286-9

## Take-home message

- The Platinum nanocoating on Cocoon Occluders effectively demonstrates that Nickel release levels are not elevated
- There have been no reports of allergic reactions early after the procedure or during follow-up<sup>[1–3]</sup>
- Zero incidences of Nickel allergic reactions<sup>[1–3]</sup> and device-related erosion<sup>[4–6]</sup> strengthens the confidence in Cocoon Occluders

### References

[1] Int J Cardiol. 2014 Dec 15;177(2):418-22

[2] Medicine. 2019 Mar;98(10)

[3] Hellenic J Cardiol. 2021 Jan 20;S1109-9666(20)30291-8

[4] J Am Coll Cardiol. 2016 Apr 26;67(S16):S31

[5] J Am Coll Cardiol. 2017 Oct 31;70(S18):B272

[6] Cardiol Young. 2018 May 25;28(S1):S22-23

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