



Wearables Safety

1. What are wearables?

- According to International Data Corporation (IDC) forecasts, the number of wearable devices worldwide will reach 112 million by 2018.
- Wearable devices may be smartwatches, clothes, jewelry, fitness trackers and head displays. These wearables are heavily influenced by the fashion industry, allowing consumers to request different designs and colors every season.
 - With this accelerated design cycle, it's important to consider whether a brand uses well-developed material processes to turn out high-performing, safe products.

2. Are wearables safe to wear?

- Electrical overheating, biocompatibility and data security are a few concerns that may arise from these devices.
- The materials that make up a wearable may cause chemical reactions affecting the wearer's skin, especially when worn for long periods of time.
 - Batteries and other electrical circuits may become warm when in-use. The heat may become uncomfortable or even irritate the skin when worn close to the body for several hours.
 - Some wearables have been known to cause rashes because the plastics were not compatible with the consumer's skin. Be conscious of how your skin reacts to the wearable's materials by removing it several times a day when you first purchase it to minimize long-term contact.
 - Nickel allergies are one of the most [common causes](#) of reactions, hence why most jewelry has a "contains nickel" or "nickel-free" label. Someone with this condition needs to know if the wearable technology contains an allergen.
- Users need to be informed about the water-resistance of the product. Be careful not to immerse water resistant products when washing hands, doing dishes, etc. Water-resistant does not mean water-proof.

3. What type of batteries do wearables use, and should I be concerned about the battery safety?

- Many of these devices use lithium-ion batteries, a technology that allows the devices to be smaller, lighter and easily rechargeable. These batteries pack a large amount of energy in a small container.
- Battery problems are rare, although problems can worsen when the device undergoes abnormal abuse.



- When repeatedly overcharged, dropped, bent or squished, the batteries have the potential to short circuit, overheat and potentially malfunction. To prevent a malfunction, only charge the device for the amount of time outlined in the manufacturer’s user manual.
- Do not drop the product on hard surfaces.

4. Is my personal information vulnerable on wearables, if so how can I protect myself?

- Oftentimes, wearable device makers collect and store much of your personal data. Some manufacturers sell data back to the users by charging a monthly fee, but they also collect and store the data to sell to third parties.
 - Some experts say this can pose a security risk — even when the data is “anonymized” for your protection.
 - By cross-referencing wearable data with other digital trackers of user behavior, hackers can figure out a person’s identity.
- Here is a list of ways to help protect your personal information:
 - Read your device’s user agreement and privacy policy carefully so you know where your data is going and who is going to retain ownership.
 - Opt-out of data collection, if possible.
 - Disable data sharing to stop automatic updates to social media. If you tie social media to these devices, review the permissions you set. Look at those in your social media circles who have access to that data, and evaluate how you allow data to be gathered. You don’t want people monitoring your daily habits for malicious activity.
 - Turn off Bluetooth when a device or app is not in use to minimize the risk of a hacker breaking-in via open access points.
 - Consider how hackers may use seemingly harmless information like your age, sex, height, weight and email — combined with digital traces like the time or location of your activity or social media updates — to gather increasingly sensitive information such as a password.
 - Do not reuse the same user name and password between different sites.
 - Twenty percent of apps transmitted user credentials in clear text. The transmission of credentials in clear text is troubling as many people reuse login credentials on multiple sites. Login details stolen from one website could potentially be used to gain access to email or online shopping accounts ([Symantec](#)).
 - Avoid apps and services that do not prominently display a privacy policy.
 - Fifty-two percent of apps do not have privacy policies ([Symantec](#)).
 - Install app and operating system updates and use full device encryption when available.
- UL is working to create a framework of guidelines that can be used to help device makers build products that offer better protection against threats from hackers. The framework aimed at



wearables could even offer potential testing and certification for wearable devices that would give consumers more information about such products when they go to purchase them.

5. What do baby wearables track and are they safe for my baby?

- Baby wearables track almost everything going on in the crib, from sleep patterns to breathing rates.
- Few regulations exist beyond laws requiring products for children to be tested for toxic chemicals and metals.
- Devices like these could get hot. Unfortunately, it's unknown how hot these devices can get.
- Unlike with adults, a few degrees increase in one spot on a baby could pose a problem. Babies do not have the ability to roll over when something is getting hot even if something is a few degrees too warm. Check the area for a red spot, which may develop on the baby.
- Chemical reactions with the skin should also be a concern for baby wearables, especially as babies perspire often and have sensitive skin.