AUTHOR: No author available SECTION: STARTWO PAGE: 1TO3 PRINTED SIZE: 2626.00cm² REGION: KL
MARKET: Malaysia PHOTO: Full Color ASR: MYR 132,665.00 ITEM ID: MY0069647578

08 JUN, 2026

TAKE CHARGE

The Star, Malaysia

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Photos: Magnific

TAKE a look around your home. How many devices do you have charging at the moment?

From smartphones and laptops to power banks and wearables, charging has become a routine part of daily life.

According to The Electrical and Electronics Association of Malaysia (TEEAM), this growing reliance on connected devices means charging safety is no longer just a technical issue but one that affects consumers directly.

"It has become a daily household safety issue. Many consumers focus on convenience and speed, but overlook the importance of certified chargers, proper wiring, and safe charging habits," says TEEAM president Albert Tan Tin Yau during an interview in Shah Alam, Selangor.

TEEAM is a national trade organisation, and Tan says part of its role is to represent industry members while helping to keep consumers informed about issues affecting the electrical and electronics sector.

"One growing concern is that unsafe charging habits are becoming normalised because devices are used so frequently in daily life," Tan adds.

Check your cables

One habit that concerns Terry Lee Hup Boon, founder of Unipro Global, is the tendency for consumers to continue using charging cables even when there are visible signs of damage such as fraying or exposed wires.

It is an issue he has observed repeatedly through years of distributing charging products across the country.

"That one logic, 'if it still works then it must be fine', is behind most of the issues we see. The deceptive thing about a fraying cable is that function and safety are not the same," he says in a statement to *StarLifestyle*.

He warns that the habit of using devices such as phones while charging is one of the fastest ways to destroy a cable.

"The angle stress on the connector head, combined with the heat generated during charging, causes micro-fractures that compound with every use.

"By the time the cable stops working, the internal condition has often been unsafe for some time already," Lee adds.

What makes a frayed cable unsafe? According to Tan, cables contain copper conductors that carry electrical current.

These copper conductors are surrounded by layers of insulation made from rubber or polymer materials to prevent contact with users and external surfaces.

When a cable becomes frayed, Tan says the insulation breaks down, which can expose or stress the internal wiring while increasing electrical resistance that generates excess heat during charging.

"In the best-case scenario, built-in safety mechanisms may cause the device or charger to shut down. But continued use can still lead to overheating that melts the insulation. In worst-case scenarios, this can escalate into electrical faults or even fires," Tan adds.

Selangor-based fire safety consultant Alan Chan also believes fire risks can increase due to unsafe charging habits, including leaving chargers plugged into a power source without a device connected.

"If the cable is damaged in this scenario then the charger has the potential to overheat, which may cause a short circuit and potential fire," says Chan.

As more households rely on lithium-ion battery-powered devices such as smartphones, laptops and power banks, Chan says safe charging practices are essential to reduce potential hazards.

"The primary danger is thermal runaway, a rapid, self-sustaining chain reaction that produces an intense fire which is extremely difficult to extinguish," Chan adds.

Too much at the same time

Lee believes the number of devices people charge at home has increased significantly since 2020, when the pandemic lockdown led to more people to work from home.

He is concerned that overloaded extension sockets could be one of the most overlooked unsafe charging habits in the country.

"It is extremely common to find one 13-ampere wall socket running a multi-socket extension that powers a laptop charger, a phone charger, a tablet, a TV, and a standing fan simultaneously.

"That extension was not designed for sustained high load, and the cumulative heat from those connections in a poorly ventilated space is a real risk, completely separate from the quality of any individual charger."

Risky consumer behaviour

Tan agrees that most consumers tend to overload a charging hub with too many gadgets: "So many devices to charge but so few sockets. It's becoming more common for excessive use of multi-port charging hubs without understanding their electrical limits."

Tan explains that all connected devices draw power from a single power source, and if a charging hub is of poor quality or not designed to handle the total load, it can become a safety risk.

"This includes situations where the hub has insufficient power rating, inadequate internal wiring, or poor heat management," Tan says.

However, he feels that most consumers could easily ignore this simply because of the number of devices that need charging in a household.

When the current demand exceeds what the hub is rated for, Tan says it can lead to excessive heat build-up.

Tan concurs that it is unrealistic to expect the average consumer to monitor the exact power consumption of every device connected to a charging hub, but stresses that consumers should pay attention to warning signs.

"A charging hub should not become excessively hot during normal use.

"If the hub feels unusually warm, emits a burning smell, shows signs of discoloration, or if the charging performance becomes erratic, those could be indications that it is being pushed beyond its safe operating limits or that the product itself is of poor quality," Tan says.

"Ultimately, charging hubs are designed to distribute power safely within their rated capacity. The greater concern is not consumers using multiple devices, but the use of uncertified or poorly designed products that may lack adequate protection against overheating and overcurrent conditions," Tan adds.

When sparks fly

Do you feel a tingling sensation when you touch your metal-body phone while it's charging? Tan says consumers should not ignore tingling sensations during charging.

In many cases, a mild tingling feeling may be caused by leakage current, poor grounding, or inadequate insulation within the charger or electrical system, he adds.

"While it may appear minor initially, it can indicate underlying electrical safety issues.

"A properly designed and certified charger should minimise such risks.

"The concern is greater when the tingling becomes stronger, occurs repeatedly, happens with multiple devices, or is accompanied by overheating or sparks."

Tan says that this may point to faulty chargers, damaged cables, improper household wiring, or counterfeit charging products.

"Consumers should stop using the charger immediately and replace it with certified products," he says.

But how hot is too hot when it comes to overheating?

According to Lee: "A useful rule of thumb: a charger body should not exceed around 50°C during normal operation.

"In practical terms, if you pick up the charger and it feels uncomfortable to hold after ten seconds, it is probably running too hot. A well-designed charger in a ventilated space should feel warm, not hot."

"The safest indicator for consumers is consistency: if your charger suddenly starts running noticeably hotter than before, or develops a smell, something has changed internally and it should not be ignored," says Lee.

Children and chargers

When it comes to conversations about charging safety, Lee says the type of users that worry

That one logic, 'if it still works it must be fine', is behind most of the issues we see. The deceptive thing about a fraying cable is that function and safety are not the same.

Terry Lee Hup Boon

If the cable is damaged in this scenario (leaving chargers plugged into a power source without a device connected) then the charger has the potential to overheat.

Alan Chan

It's becoming more common for excessive use of multi-port charging hubs without understanding their electrical limits.

Albert Tan Tin Yau

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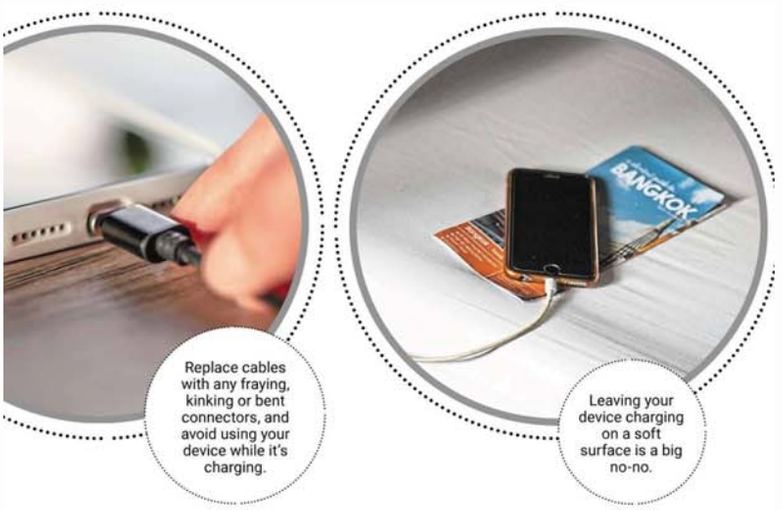


him the most are children, believing that they don't get as much attention.

"Kids today are attached to devices from a very early age, and the habit of charging while actively using – lying on a bed, cable bent at the connector, screen bright – is extremely common.

"They do not recognise heat or a tingling sensation as a warning. They just keep going. Paired with a worn cable or an uncertified charger, that combination is genuinely unsafe," Lee adds.

Lee says he actively discourages his own children from plugging in devices on their own.

Tan says children may not fully understand the risks of plugging in or unplugging devices on their own, especially when charging hubs are already overloaded.

"There needs to be some education here on when it's safe and not for children to be handling charging independently.

"For example, they should know which cable is meant for their tablet and they should be reminded to not bend or pull the cable to avoid damage," he says.

Safety first

Lee believes charging-related risks could grow as device power levels increase.

He believes there are plenty of certified products in the market that are designed to reduce risks.

"In Malaysia, the SIRIM Safety Mark is a reliable and easy-to-verify starting point," he adds.

Many phone chargers today come with features such as GaN (Gallium Nitride) technology – which can handle higher voltages and conducts electrons more efficiently in a more compact size – to enable ultra-fast power delivery, as well as multiple ports including USB-C to support multi-device charging.

Many also come with better heat management and enhanced safety protocols such as built-in protections for over-voltage, over-current, and short-circuit situations to ensure safe and stable charging, according to a report from Anker, a Chinese company specialising in charging technology.

Raising awareness

However, Chan says that if consumers continue to practice bad charging habits, additional safety features on chargers wouldn't make much difference.

"All *mahu* cheap only. Who cares if the charger is reliable with certification? People have the freedom to purchase any products they want from various platforms. But it all comes down to human habits," he says.

Lee laments the fact that most consumers tend to replace a charger or cable only when it stops working.

"As long as something is still charging – even slowly, even getting hot – users assume it is acceptable. That patience with a degrading accessory is one of the more widespread and underappreciated risks," says Lee.

For starters, he says users need to look at every cable and charger they are using.

"Ask yourself: when did I buy this, and does it still look the way it did when I bought it? If the cable has any kinking, fraying, or a bent connector then replace it today. Not next week. Today. The cost of a replacement cable is almost always less than repairing a damaged device," Lee adds.

When users make the replacement, he says to check for the rated wattage point on the packaging or cable.

"If you are using a 65W or 100W fast charger, the replacement cable must be rated to match. Look for '5A' or '100W' stated explicitly. A USB-C cable with no power rating on the packaging should not be used with a high-power charger, regardless of how it looks," says Lee.

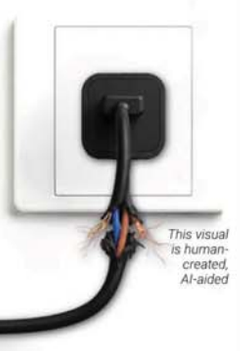
"The other habit I find genuinely concerning is buying the cheapest charger available online without checking for any certification at all. On e-commerce platforms, an RM5 charger sits right next to an RM35 certified one, and the product listing looks almost identical.

"Consumers have no easy way to tell the difference just from a photo, and most don't know what to look for," Lee adds.

Aside from that, Chan says his single most important piece of advice is to never leave charging devices unattended, especially while sleeping, and to always charge devices on a hard, non-flammable surface.

Lee concurs: "Never charge devices on soft surfaces. Beds, sofas, cushions, carpet. These materials trap heat and block airflow around the charger.

"A surface that feels fine to touch can be insulating heat to dangerous levels inside the charging brick. Charge on a hard, flat surface with open air around it."



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Tan believes parties such as the Energy Commission and Tenaga Nasional Bhd have to tap into raising more consumer awareness about safe charging habits at home.

"For example, not to overload your plug points or to remind them to perform electrical safety checks at home, especially if they live in an older home. I feel a lot of people may not be fully aware that fire or electrical risks related to charging are preventable," says Tan.

Lee says the problem in most cases is public perception.

"The moment consumers hear the word 'charger', they think of it as a cable and a brick – an afterthought accessory. Very few people think of it as an electrical product, governed by the same safety logic as the wiring in their walls," he concludes.

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