

The Committee of Science and Technology presents:

The Update: Code Green

The Intersection of Technology, Medicine, and Sustainability.

The Circular Surgery Initiative

Written by: Farah E. Ali 22901046

One big change: swapping throwaway plastic gear for washable sterile cloth is catching on in surgery. Backed by a 2025 global study of more than 5,000 workers from 134 nations, most operating room teams now trust reusable gowns and covers as much as disposable ones, putting old worries about cleanliness to rest. After using quality fabric items 1,000 times, clinics cut landfill trash by nearly nine out of ten piles while slashing climate-warming gases two-thirds. Because these materials let skin breathe, surgeons report feeling less overheated when cases drag on. While saving the planet matters, so does staying cool under pressure - and this way handles both without compromise. Even so, studies show the biggest barriers still lie in how institutions resist change and stick to old buying routines within wealthier nations, while poorer regions struggle with missing infrastructure. Ahead lies work such as the "DRAGON" trial, a major medical test meant to pin down real data on infections and expenses - proof required before eco-friendly practices can become common worldwide.

Digital Leadership & Green Creativity

Written by: Farah E. Ali 22901046

A fresh 2025 study shows digital leadership training sharpens how nurses solve problems and sparks inventive eco-friendly thinking during patient care. Because they learn systems such as real-time inventory monitoring, team members spot surplus supplies early - stopping waste before items go unused. With this change, those working directly with patients step back from old inefficient habits, relying on insights pulled from information to forecast what clinics will need. Since gaining comfort with tech interfaces, nursing professionals act less like order followers, more like key drivers shaping sustainable healthcare practices. Each figure hides a story of care. Nurses take part in programs such as the Green Nursing Challenge, showing how smart choices paired with tools drop CO2 levels by more than 77,000 kilos. Not just data points - these outcomes grow from daily acts, where healing meets responsibility. One decision at a time, climate awareness slips into practice.



Additive Manufacturing & Waste Reduction

Written by: Zaenab Yaser Ali 22901057

A major obstacle for the dental industry is its immense material waste and expanding environmental footprint. By integrating additive manufacturing through 3D printing, we can achieve a significant reduction in byproduct waste. Recent 2024-2025 studies comparing traditional milled (subtractive) to 3D-printed (additive) hybrid composite resins have shown that while subtractive manufacturing currently yields slightly higher performance, 3D printing offers comparable outcomes with superior cost and material-saving characteristics. Notably, subtractive milling can waste up to 90% of a raw material block, whereas 3D printing uses only the precise amount of resin required. As we bridge the gap through better post-processing and formal training, additive manufacturing stands as a breakthrough for sustainable dental practice.

Benign by Design in Green Pharmacology

Written by: Halima Nader Hussein 24903037

Artificial intelligence is gradually changing how new drugs are designed, especially with growing concerns about environmental pollution. The idea of "Benign by Design" focuses on creating medicines that still work effectively in the body but can safely break down into harmless substances after they are used. Many studies have shown that a significant amount of drugs end up in water systems because they do not fully degrade, which can negatively affect aquatic life and possibly human health over time. To address this, researchers are now using AI and computer-based models to predict how drug molecules behave, making it easier to design compounds that are more environmentally friendly. These AI tools help scientists adjust the structure of drugs early in development, saving time and reducing the need for repeated testing. At the same time, they allow better understanding of how a drug will break down once it enters the environment. However, this approach is not without challenges. While achieving the dual requirement of clinical stability and post-excretory degradability remains a complex challenge, the "Benign by Design" framework represents a vital shift toward pharmaceutical sustainability by combining advanced technology with environmental awareness to create safer solutions for both patients and the planet.



The Hidden Leaf Challenge

We've hidden 3 Green Leaf icons throughout this issue.

- The Mission: Find all three!
- The Reward: The first 3 students to reply back with a screenshot of all three leaves to the student council email address will receive a Shout-out in the next issue and a Digital Certificate of Eco-Innovation.
- studentcouncil@rakmhsu.ac.ae



Sustainability in dentistry is not just about reducing waste-it's about rethinking how care is delivered to protect both patient health and the planet

-Dr. Ruaa Habib, General Dentist

RAKMHSU Insight: The Digital Shift

Leading the Way in Sustainable Medical Education

Sustainability Training with Dr. Nika Salvetti

On Saturday, the 28th of March, the training session was hosted and organized by the Deanship of Quality Assurance and Institutional Effectiveness (QAIE) and facilitated by the Deanship of Student Affairs, featuring Dr. Nika Salvetti. Beyond the technicalities of the Sustainable Development Goals (SDGs), Dr. Salvetti provided a deep dive into the practical meaning of sustainability in a clinical context. Students engaged in hands-on exercises to learn how to apply eco-friendly concepts within their daily lives and future medical careers, emphasizing that a physician's duty extends to the health of our planet.

The Paperless Pioneer: Digiclass & Digital Exams

RAKMHSU continues to set a benchmark for digital transformation in the UAE:

- **100% Digital Clinical Workflow:** We have officially moved away from paper-based portfolios. All clinical logbooks, case reviews, and presentations are now managed via Digiclass, ensuring real-time feedback with zero paper waste.
- **The Digital OSCE/OSPE Milestone:** By digitizing our practical exams, the university has eliminated the need for thousands of printed marking rubrics and sheets every semester, significantly lowering our campus carbon footprint.

DID YOU KNOW?

ONE

A single surgery can produce more waste than a family of four produces in an entire week.

TWO

For every 10,000 sheets of paper RAKMHSU saves via Digiclass, we preserve approximately one whole tree and 50,000 liters of water.

THREE

If global healthcare were a country, it would be the 5th largest emitter of greenhouse gases in the world.

FOUR

One bottle of Desflurane has the same global warming impact as burning 440 kg of coal. To go green, hospitals are switching to Sevoflurane, which has 20 times less environmental impact.

Want to read more? Check out our references [here](#).

April Conferences

[1st Annual Neurology Conference 2026](#)
[4th Annual Head and Neck Cancer Conference 2026](#)

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