

# Come clean

By Helen Jauregui

**T**he unfortunate trend of 'sick ship' syndrome has been a major challenge for famous cruise operators, as scores of passengers anticipating luxury and relaxation have instead succumbed to the perils of gastrointestinal illness, fated to remain sheltered in their guest bathrooms for the duration of their holiday.

Companies that have played host to such ill-fated journeys include Holland America Line, Royal Caribbean International, Celebrity Cruises and Fred Olsen Cruise Lines. Taking into account not only the major health implications of a disease outbreak onboard, cruise operators are also painfully conscious of the financial burden which presents itself when a ship is docked and unable to operate. As the World Health Organization stipulates in its 'Guide to Ship Sanitation' (2007), 'responsibility for ensuring the ship can be operated in a manner that provides a safe environment for passengers and crew rests with the ship operator'.

Predictably, while illness en masse becomes more commonplace onboard, legal firms specialising in travel illness have intensified their visibility, enticing passengers to press for hefty compensation claims in return for their suffering. Such payments, accompanied by lost profits, possible health and safety fines and decontamination bills create a situation in which operators must use caution and ensure their vessels are treated appropriately following an outbreak of sickness. By hiring an effective and extensive decontamination solution service, the continued spread of notorious bacteria including E. coli

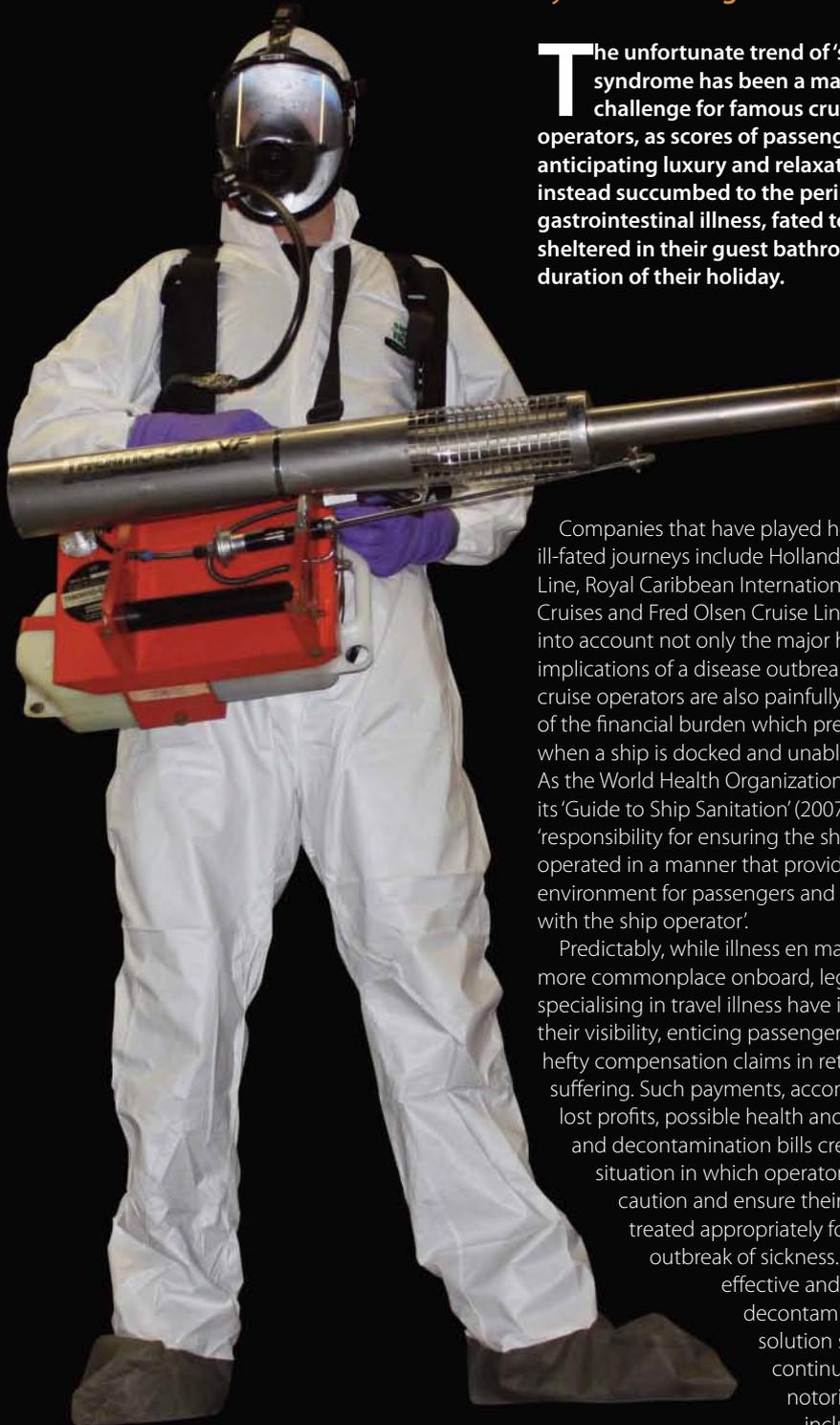
and norovirus can be prevented and the vessel can return to normal operations.

Christian Cadieux, Owner of Crime & Trauma Scene Cleaners, a decontamination solutions company based in Ontario, Canada told *MMI* about a project he headed up in Quebec City, where two cruise ships had been docked and quarantined following an outbreak of norovirus. With around 150 Canadians onboard who were 'extremely sick', the Canadian government took responsibility for these citizens and Health Canada commissioned a decontamination project.

With a vast and varied surface area to work with, Mr Cadieux's team had to work 'around the clock' but as he explained, such a large scale project is quite typical within his line of work: "We had to clean around 12,000 rooms in 72 hours. I had to utilise a great deal of my resources, with labour and equipment, but these types of services and scenarios, whether it be infection control or disease outbreak, happen on a daily basis throughout the world."

For those whose experience of cleaning extends only to a weekly mopping of the kitchen floor, such an extensive cleaning operation is certainly a daunting prospect, so where does one begin when faced with such a vast project? "It's a complicated job but first and foremost, the most important thing is to assume everything is contaminated," Mr Cadieux said. "It is imperative every person on my team proceeds with universal precaution."

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Our first approach is to put a plan together, identifying the hazards we are likely to come across, whether it's confined spaces, power tools or electrical panelling in certain rooms. All these circumstantial variables have to be taken into consideration in order for us to decontaminate a possibly contaminated environment.

"The decontamination procedure, depending on what we're dealing with, will entail different kinds of equipment. Sometimes we use backpack foamers to emanate and eject foam which clings to the surface and then we recover it with a bio hazardous ultra low particulate air filtered vacuum. Sometimes we use an ultra low volume fogger which dispenses our decontamination agent, allowing it to be suspended in air for a prolonged period of time. This can eject liquid above anywhere from 20 to 30 feet so if there's somewhere our technicians can't get to, we can still reach any space by properly fogging or foaming the environment."

As the company name suggests, Crime & Trauma Scene Cleaners have built a reputation for decontaminating bleak environments tainted with blood and other potentially dangerous sources of infectious disease. Mr Cadieux has also been the focus of a forthcoming reality television series entitled Grim Sweepers, in which his team was filmed while working on some particularly graphic decontamination projects. But as he explained, with the correct personal protective equipment (PPE) and training, his employees remain safe from contracting infectious diseases on the job: "The law specifically says the employer must take every precaution, reasonably necessary under the circumstances for the protection of the worker, so I ensure my technicians are fully trained and understand the hazards they're going into".

As the Maritime and Coastguard Agency/Health Protection Agency document entitled 'Guidance for the Management of Norovirus Infection in Cruise Ships' stipulates, in a ship's turnaround decontamination plan, operators must specify the timings, who performs the work, and the methods and types of cleaning and disinfection. The document also states companies must demonstrate that there will be 'no risk of cross-contamination from dirty to clean areas' and this is an especially pertinent issue for professional decontamination companies.

Elford Bio Clean are a UK-based firm whose experience of maritime decontamination has

covered a vast range of vessels, including a four berth pleasure yacht and a 1835 tonne commercial ship. As Robin Elford, Co-Director, confirmed, successful decontamination and infection control requires an "integrated approach of careful targeted planning and the ability and desire to be thorough in its execution". Mr Elford described some of the products used during decontamination projects, including an anti-microbial biocide contained in a pressure spray, a contact surface wipe for use on handles, switches etc and an ultra low volume fogger for difficult to reach spaces.

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He added: "The environmental conditions onboard, with many people working in a confined space with lots of close contact, both literally on surfaces and in person, creates the perfect atmosphere for the incubation and spread of viral spores and associated pathogens. Continued staff changes obviously provide increased opportunities for an infected person to be inadvertently introduced into an already close-knit group. Airborne spores are among the hardest to eradicate due to the widespread nature of their distribution."

However, it's not only bacteria which can prompt decontamination operations within the maritime industry. Nick Bailey, Hazardous and Noxious Substances Business Manager, Braemar Howells, has worked on a number of key decontamination projects. This includes the *Napoli*, a UK-flagged vessel which broke up on the Dorset coast in 2007, resulting in looting by the general public of items such as perfume, motorbikes and car parts, followed by an extensive clean up project to address a

number of chemical substances which were onboard.

Mr Bailey said the most challenging aspect of *Napoli* was dealing with two tank containers of epichlorohydrin – a carcinogenic, toxic and highly corrosive chemical which is subject to thermal decomposition in the presence of water. He added: "The containers had washed ashore and though not damaged, were deemed unsafe for further transportation. A product transfer was organised using new, clean tanks provided by the original product manufacturer. Owing to the large volume and hazardous nature of the substance, the chemical manufacturer and the UK National Chemical Emergency Centre were consulted during the risk assessment process."

As Mr Bailey noted, though protective clothing is an essential element of his profession, on occasion, high level protective equipment can cause a new set of problems, particularly when operating in cramped spaces onboard: "Our top level of PPE is a full gas tight suit, in which the wearer is hermetically sealed from the environment but it can be difficult to work in this kind of PPE as you're more likely to trip over or suffer from heat fatigue or cause other problems to yourself by having to work in this equipment. Confined spaces and entry via steps can be particularly difficult. When you look at the risk assessment for what you're doing, you must take all these factors into account and assess what kind of PPE to use, whether this be a flash suit, breathing apparatus etc."

Despite the practical challenges ship decontamination could present for the uninitiated, those who spoke with *MMI* agreed that when working on large scale projects, the most challenging aspect is often the timeline. Christian Cadieux concluded: "Every minute the ship is down represents millions of dollars lost for the operator and its imperative for us to respect and appreciate the nature of what has happened but also to understand the situation from the cruise ship standpoint. Money is at stake but it's also people's health and wellbeing. It can be a challenge to find an amicable agreement between the owner of the ship and the health and welfare of the passengers. The wellbeing of the guests who've been infected, and ensuring no one else will become infected is of course our top priority but I also have to factor in the person who is paying the bill too." ♥

*Image courtesy of Crime & Trauma Scene Cleaners*