Testing and listing disinfectants – instrument and product of quality assurance

Desinfektionsmittel-Testung und Listung – Instrument und Produkt der Qualitätssicherung

Abstract

In Germany, the Disinfectants Commission of the Association for Applied Hygiene (VAH) ensures that the user can avail of procedures that meet the stipulated quality requirements. These requirements are based on the tried and tested standard methods of the German Society of Hygiene and Microbiology (DGHM) as well as on European standards. They take account of the different requirements dictated by the various fields of application, reflecting the quality assurance system in a transparent manner. Special emphasis is increasingly placed on retesting the products already available on the market. In multi-center trials the inter- and intralaboratory fluctuations in the test results are ascertained, the quest for suitable standard substances intensified, culture conditions and detection procedures are standardized and the test procedures and potential influence factors analyzed in detail. The aim here is to devise test procedures that will yield a reproducible and reliable result independently of the test location, and meet the requirements of everyday practice. Attention must be paid to, inter alia, the prevailing microbial spectrum in quality and quantity, the prevailing organic and inorganic load as well as material and surface properties.
The test procedures are gradually brought into line with the current stock of scientific knowledge, because such a task calls for conscientiousness, tenacity and patience as well as continuous dialog between research, industry and practice. Thanks to these joint efforts, we are increasingly better able to meet the demands made by intelligent and selective prophylactic disinfection.

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Zusammenfassung

In Deutschland gewährleistet die Desinfektionsmittel-Kommission im Verbund für Angewandte Hygiene (VAH) dem Anwender, die dem für den Bereich notwendigen, hohen Qualitätsanspruch entsprechen. Die Anforderungen basieren dabei sowohl auf die seit Jahrzehnten bewährten DGHM-Standardmethoden, als auch auf die in Europa entwickelten Normen. Die differenzierten Anforderungen der verschiedenen Anwendungsbereiche werden berücksichtigt und das Qualitätssicherungssystem transparent dargestellt. Besonderes Augenmerk wird zunehmend der Nachprüfung von im Markt befindlichen Produkten geschenkt. In Ringversuchen wird die inter- und intralaborielle Schwankung der Testresultate ermittelt, die Suche nach geeigneten Standardsubstanzen verstärkt, Anzuchtbedingungen und Nachweisverfahren standardisiert und der Testablauf und mögliche Einflussfaktoren genauestens analysiert. Das Ziel sind Prüfverfahren, die unabhängig vom Ort der Prüfung ein reproduzierbares und verlässliches Ergebnis hervorbringen, und den Anforderungen der Praxis entsprechen. Es muss also u.a. dem vorherrschenden Erregerspektrum in Qualität und Quantität, der vorherrschenden organischen und anorganischen Belastung, dem Material und seinen Oberflächeneigenschaften gerecht werden.

Die Anpassungen der Prüfverfahren an den jeweiligen Stand der Wissenschaft erfolgt sukzessive, denn das erfordert Gewissenhaftigkeit, Ausdauer und Geduld und den ständigen Dialog zwischen Forschung, Industrie und Praxis. Durch diesen gemeinsamen Einsatz gelingt es uns immer besser, den Erfordernissen einer intelligenten und gezielten prophylaktischen Desinfektion gerecht zu werden.

Text

What exactly does prophylactic disinfection entail? While it is just a small snapshot of the entire picture of the infection prevention measures needed, it is, nonetheless, an amazingly complex specialist area with its own dynamic.

Behind the facade of an ostensibly transparent service such as disinfection, as carried out in human medicine and other public institutions, lie several decades of research, carefully formulated infection control policies, intelligent marketing strategies and the experiences gleaned by users. At the core of such activities is always public health protection, prevention of infections by means of microbiologically tested products, while taking into account their effects on humans and the environment.

However, the cost pressures arising from tight budgets in the healthcare sector mean that the need for routine disinfection measures is questioned time and again. At the same time, increasingly more exacting demands are being addressed to the spectrum of action, human toxicological properties and environmental compatibility.

This in turn means that it is all the more important for the manufacturers and distributors of disinfectants to be able to furnish proof of the quality of their products, while using quality seals to demonstrate this to the user.

In Germany, the Disinfectants Commission of the Association for Applied Hygiene (VAH) ensures that the user is given a catalog of procedures that meet the stipulated quality requirements. In this respect, the Commission bases its endeavors on the tried and tested standard methods of the German Society of Hygiene and Microbiology (DGHM) as well as on European standards. Acting in concert with representatives of the disinfectants' industry and in agreement with the Robert Koch Institute, rules of procedure were drafted for the Commission which was set up in 2004. These take account of the different requirements dictated by the various fields of application, reflecting the quality assurance system in a transparent manner.

In addition to the tried and tested conformity assessment procedure, particular emphasis is placed on retesting the products already available on the market. Enormous efforts are being made at national and international level to enhance the power of these tests. In multi-center trials the inter- and intralaboratory fluctuations in the test results are ascertained, while lending new impetus to the search for suitable standard substances; culture conditions and detection procedures are standardized and the test procedures and potential influence factors analyzed in detail. The aim here is to devise test procedures that will yield a reproducible and reliable result independently of the test location. This result must then be incorporated into an evaluation procedure, reflecting the requirements applicable in everyday practice. Attention must be paid to, inter alia, the prevailing microbial spectrum in quality and quantity, the prevailing organic and inorganic load, material and surface properties and the procedures employed. Often, this can be achieved only by making compromises and reviewing analogous situations. The experts must provide information on and explain such issues.

These elaborate analyses and methodical approaches cannot be dispensed with if one wants to attain the quality seals prescribed. The test procedures are brought into line with the current state of scientific knowledge successively but consistently, with the aim of improving health protection.

These adaptations call for conscientiousness, tenacity and patience and continuous dialog between research, industry and practice. They also call upon companies that wish to embrace quality assurance measures to invest time and financial resources and show commitment. Thanks to these joint efforts, we have been better able to meet the demands made by intelligent and selective prophylactic disinfection.

At this juncture I would like to thank all those persons who are helping to structure this quality assurance system at many levels. In particular I would like to thank Dr. Molitor, who during my tenure of office as managing director of the Disinfectants Commission in the DGHM and now in the VAH, for the support he has given this Commission. His farsightedness, tenacity and assertiveness have set standards that have made an important contribution to the high quality of prophylactic disinfection in Germany and throughout Europe.

Curriculum Vitae

Dr. Jürgen Gebel

Figure 1

Figure 1: Jürgen Gebel

Microbiologist, Head of Department for Disinfectant Testing at the Institute for Hygiene and Public Health at Bonn University, Secretary of the Disinfectant Committee of the VAH (Association for Applied Hygiene)
Jürgen Gebel studied Biology at the Rheinische Friedrich-Wilhelm University, Bonn and got his diploma in Microbiology 1992. In 1998 he received his degree at the Hygiene Institute on the subject of: „Standardisation of microbiological dosimetry in the area of drinking water with UV-rays" and stayed at the Hygiene Institute as Microbiologist and Head of the Department for Disinfectant Testing.

He became secretary and head of the office of the Disinfectant Committee of the German Society for Hygiene and Microbiology (DGHM) 1996 and later on of the Disinfectant Committee in the Association for Applied Hygiene (VAH).
Since 1998 he is member of the task force CEN TC 216 WG1 and their leader since 2004. Jürgen Gebel is assistant chairman of the taskforce Chemical Disinfectants and Antiseptics in Human Medicine and Joint Functions in the Standard Committee (NAMed) in DIN since 1999. Additionally Dr. Gebel became editor of the magazine "Hygiene and Medicine", mhp publishing house, Wiesbaden in 2005.

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