Transcript: Webinar – Spotlight on guidelines: MRSA

IPC management of patients and staff | 24 November 2021

Watch the webinar

During this webinar you our expert panel answered questions on the updated joint HIS/IPS guidelines for the prevention and control of MRSA in healthcare facilities, in relation to IPC management of patients and staff.

- **Professor John Coia**, Lead Consultant Microbiologist and Clinical Professor in Clinical Microbiology, Hospital of South West Jutland, University Hospital of South Denmark and Institute for Regional Health Services Research, University of South Denmark
- **Professor Hilary Humphreys**, Senior Clinical Educator, Royal College of Surgeons in Ireland
- **Professor Peter Wilson**, Consultant Microbiologist, University College London Hospitals

Chair: **Dr Jasmin Islam**, Infectious Diseases and Microbiology Consultant, UK Health Security Agency

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Jasmin Islam 0:03

Thank you everyone for joining our second in the Spotlight on MRSA guidelines webinar series. Today we're going to be focusing on the second part of the recently updated MRSA guidelines. They've been produced in joint collaboration with HIS and IPS. And so we're going to be focusing on screening, surveillance and the environment in the context of MRSA and the guidelines are freely available from the Journal of Hospital Infection for you to download.

During the first 30 to 40 minutes of today's webinar, what we're actually going to do is we're going to look at three different updates specifically, which the panel are going to address and then after that, we'll move on to a question and answer session for the last 15 minutes. So you can submit your questions live via Slido to participate in polls and questions, you'll need to open the Slido app and enter the code #HIS, and we'll post a link to that in the chat now.

So I'll start by introducing myself. My name is Dr Jasmin Islam. I'm an infectious disease microbiology consultant working at UK Health Security Agency, and then if I move on to the rest of the panel for them to introduce themselves and we'll make a start. Great, if we start with Professor Hilary Humphreys.

Hilary Humphreys 1:30

Good evening, everybody. Thanks very much, Jasmin. My name is Hilary Humphreys. I'm an Emeritus Professor of Clinical Microbiology at the Royal College of Surgeons in Ireland and I've had an interest in MRSA for a number of years. I was a member of the guidance group and have been involved in previous guideline development groups.

Jasmin Islam 1:51

And Peter

Peter Wilson 1:58

I'm Peter Wilson and I'm Consultant Microbiologist at University College Hospital in London and Professor of Microbiology at UCL and I've been involved with studies on MRSA for the last 30 odd years and I've been a member of this update committee for the new guidelines.

Jasmin Islam 2:22

Great, thank you, Peter. And then finally, last but not least, and John.

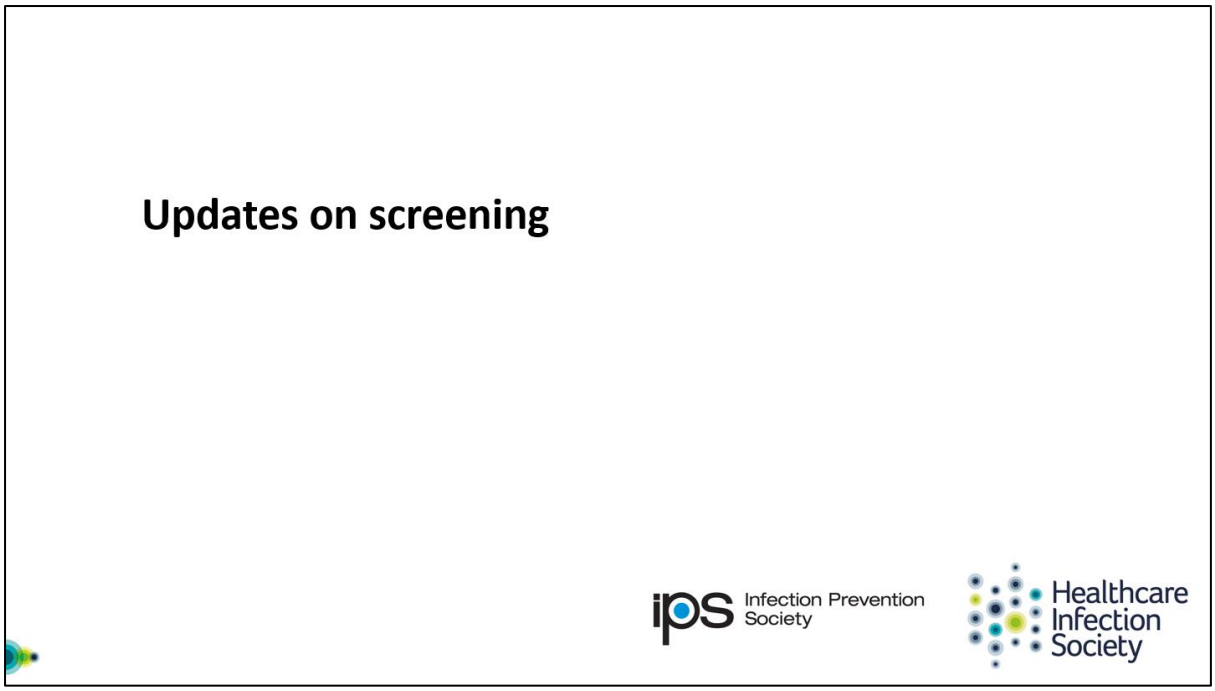
John Coia 2:28

Good evening. My name is John Coia and I'm Consultant Microbiologist just at the Hospital of south West Rutland in SPM Denmark, and Professor of Clinical Microbilogy at the Institute for Regional Health Research at the University of Southern Denmark. Before moving here in 2018 I worked for over 30 years as a clinical microbiologist in the UK I was the director of Scottish MRSA reference laboratory.

I had the privilege of chairing the working party, developing the new guidelines and as a core author of the previous guidelines published in 2006.

Jasmin Islam 3:04

Great thank you, John. So we've got we've got a great deal of expertise on the panel today who will hopefully be able to address people's questions. So if we move on to the first update now. The first update is going to be updates on screening and I'm going to hand over to John to to deliver this.



John Coia

Yes, well, and screening is clearly a cornerstone of our management of MRSA. And the previous guidelines of course has supported the use of screening and the new updated guidelines have reinforced that. However, the question specifically addressing was whether or not it was clinically effective or cost effective to preferentially use a universal approach to screening or to use a targeted approach to screening. And in fact, what we found was that the universal screening strategy has no benefit over targeted screening. However, that's not to say that in some settings, universal screening may be more practical depending on the particular workflow that you have the unit it may be easier if staff do not have to have to deal with the question of selecting which patients should be screened or otherwise. With a targeted screening approach is quite important that you consider carefully what's the basis of that type of the scheme will be because that will change depending on the circumstances that you happen to be in. So it may be that you screen patients who have particular high risk surgery that's going to take place or patients in intensive care unit. If I think of my own practice now in Denmark with a particular problem with livestock associated MRSA, so we routinely screened all livestock workers who are admitted. The take home message is

Jasmin Islam 5:38

A little bit of a connection issue I think with John

Jasmin Islam 6:15

So we just had a bit of a connection problem there. I think it cuts out at that kind of pivotal cliff-hanger moment. You know, the kind of the targeted take home message. Would you mind just repeating that?

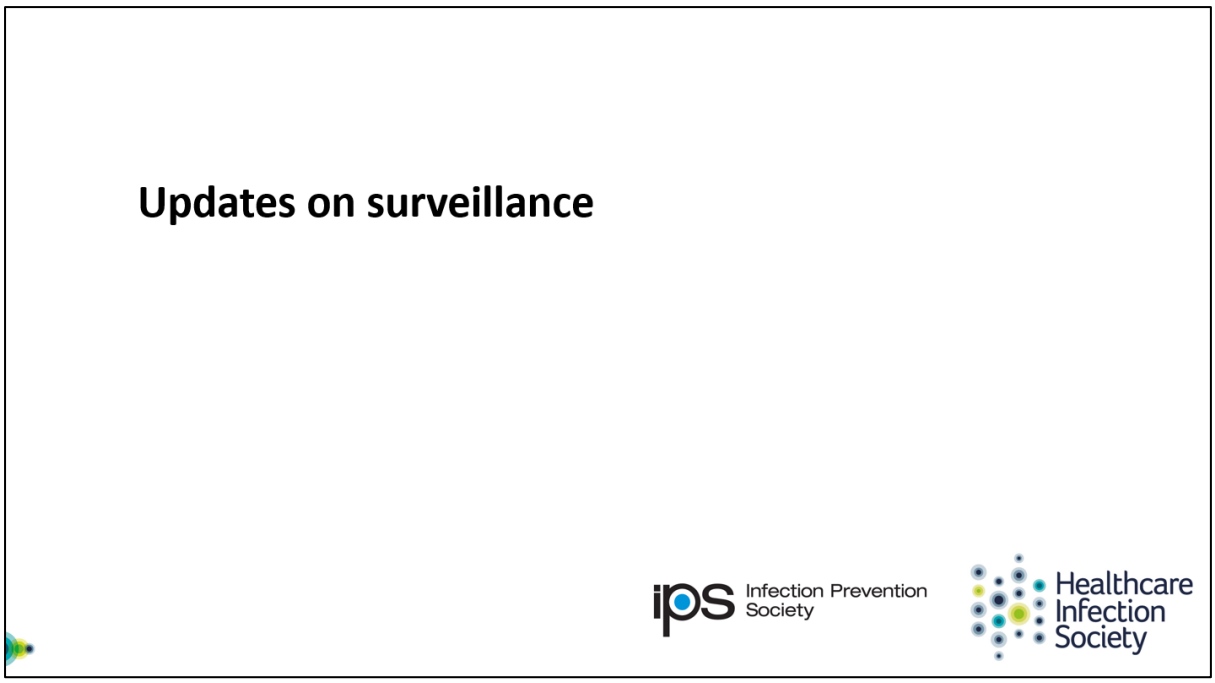
John Coia 6:29

Basically, the take home message is that demonstrate from the evidence that for universal screening we could not demonstrate there was a benefit over targeted screening. So that was the take home message from the first point. The next point we considered was whether it was or cost effective to repeat screen people and to prevent transmission of MRSA. And the basically, there are too few studies to confirm that repeat screening is actually beneficial. And so we recommend that there is no need to perform the key MRSA screening routinely. So that begs the question when might one consider to perform repeat screening? That could be for example, if you decide that you're going to decolonize a patient then we would generally recommend that you can then rescreen the patient to see whether or not that decolonization therapy has been successful or not. In the case of the negative screen again, you may feel that if there's a patient who's had a significant exposure, whether there's been a significant possibility of acquisition of MRSA. So again, that would be a case where you might consider rescreening, someone who had previously screened negative, but again, the take home message and hope that the connection doesn't cut out here is that we don't routinely recommend rescreening of patients.

The other important issue which we considered with regard to screening which I'd like to update you on is whether it is clinically effective or cost effective to routinely screen staff to prevent the transmission of MRSA. And there's been a lot of discussion of this over the intervening years since the last guidance. However, when you look at the evidence there is really very little evidence that points are to the value of routine screening of staff, and there is certainly not enough evidence to support routine screening of staff members. Having said that, there may be particular circumstances where do we decide that it makes sense to screen staff for example, if the epidemiology of a particular episode suggests the involvement of staff, then you may decide that you would like to proceed with staff screening in that situation. But as it stands at the moment again, the take home message is that you do not routinely recommend staff screening.

Jasmin Islam 9:18

Great, thank you, John. So we move on to the next set of updates now. I'm going to hand over to Hilary who's going to give us an update on surveillance.



Hilary Humphreys 9:38

Thanks. So I mean, surveillance is conducted in a wide variety of fields and if you define it I suppose surveillance is the collection and analysis of data for action. It's been present for MRSA and many other antimicrobial resistant pathogens for quite some time. And of course, since the guidelines the last set of guidelines were introduced in 2006. I think there's been an increase in local surveillance of course with mandatory surveillance in the UK and elsewhere, particularly with bloodstream infections. And so the two particular questions that the guideline addressed one was does local surveillance and feedback minimise transmission. And following the literature search, there was one randomised controlled trial and two interrupted time series. And just for information, you know, there's a number of uncontrol before and after studies which were looked at but not for making recommendations but rather to inform the narrative and together with, you know, good studies, and particularly with things like statistical process control charts, and there was fairly good evidence that there is evidence that if you like local surveillance and feedback - those result in, for example, the reduction in MRSA acquisition by patients reduced postoperative infections and reduced bloodstream infections in ICU.

So, the guideline then came to the conclusion that should undertake surveillance routinely as part of the hospital's infection prevention control strategy, and comply obviously, with mandatory national requirements, both in the UK and elsewhere.

So then the second question that was addressed was does local or national surveillance actually drive improvements in the system or service and unfortunately, this particular area and there was no suitable studies to provide evidence on that. So there's, there's basically no recommendation on that. There's no adequate studies. Even though intuition might suggest that surveillance feedback improvements in terms of individual parameters such as acquisition might ultimately help drive improvements in the system and probably does but again, just to emphasise the guidance was under a NICE set of criteria. So it's fairly rigorous in terms of looking for evidence. So if the evidence is not there, you can’t make recommendations. I'm happy to take any further questions or comments on that as appropriate.

Jasmin Islam 9:39

Thank you, Hilary. John or Peter, do you have any other comments or observations or questions?

John Coia 12:22

Hilary summarised that nicely.

Peter Wilson 12:25

Yeah, I mean, I think it's, it's always a worry, because you get the question “Well, patients had MRSA when can we assume the patient has not got MRSA?” And there wasn't really any basis for three screens, which was custom and practice previously. But you have to come to a pragmatic decision in the end, I guess. And that must be that if the patient is screened negative, then you look at the sights of exfoliation of MRSA or wound discharge of MRSA, how much of the spreading gets around and if you still can't detect it, then really, you need to take a pragmatic decision about whether to come out of source isolation. It's sadly a lack of evidence.

Jasmin Islam 13:22

Okay. Thank you, Peter. We'll move on now to the final update, which will be Peter, which will be updates on the environment.

Peter Wilson 13:31

Yeah, so environment didn't figure in the 2006 guidelines. But of course, it is an important area where MRSA can be disseminated and picked up by the patients or by the staff. We know that in the ward environment particularly, there is a whole network of contacts going on the whole time between staff, patients, relatives, surfaces, equipment, and the transmission routes are very complicated. So, it's

perhaps not too surprising that there's been a lot of studies not showing very much benefit from treatment or our other modalities with the surfaces.

These guidelines do give quite a detailed review now of the area, particularly looking at increased cleaning around the patient. If you increase the efficiency of cleaning, by audit and feedback to the cleaners and by improved training, that clearly does reduce the numbers of MRSA you can pick up in the environment. But in the studies looked at there was no benefit in terms of acquisition of MRSA or MRSA bacteraemia. It's a different matter with adjunctive, environmental disinfection.

So hydrogen peroxide, there were significantly lower MRSA counts in the environment after using hydrogen peroxide, in addition to standard cleaning. And one study that did suggest that MRSA acquisition was cut as a result. Clearly, if you clean twice as much, you reduce the organisms by half. You reduce the numbers of organisms on staff and patient hands by half. It's only sensible to consider the you reduce MRSA acquisition.

With ultraviolet light, there are at least two studies suggesting that MRSA acquisition is cut if you use these as an adjunctive disinfection of the room. But for changing the surfaces themselves, it's more variable. There was a lot of publicity a couple of years ago for using copper surfaces. This review did not find a benefit in terms of MRS acquisition from having copper surfaces in the room. There was a reduction in MRSA approvement acquisition with titanium paint. So that might be something to look forward to in the future. There's also a reduction in MRSA acquisition with the use of statistical process control charts to improve the environmental decontamination, and that sort of rather elaborate form of feedback does work and does improve the situation.

So a mixed picture as far as the environment goes, but I think the message is that if you do have an MRSA issue, either it's probably best to have some form of hydrogen peroxide or ultraviolet in addition to your standard cleaning, in order to cover the surfaces that are missed accidentally by the cleaners, and therefore present a continued risk of MRSA acquisition.

Jasmin Islam 17:34

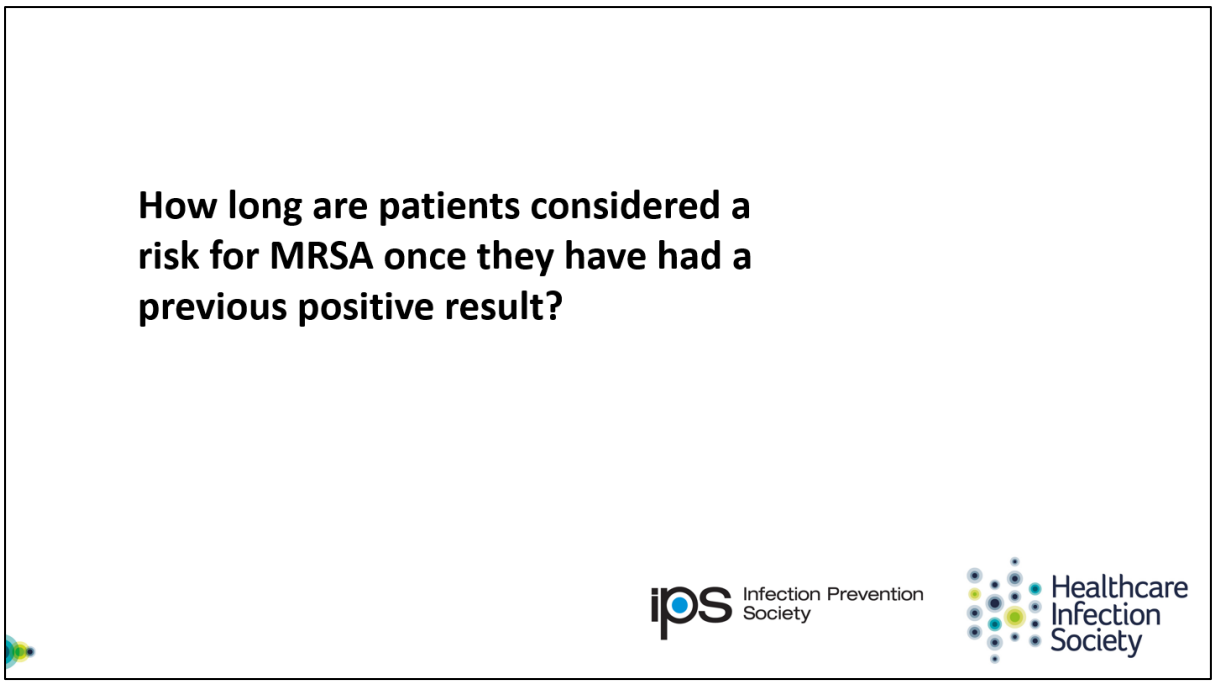
Okay, great. Thank you, Peter, and John or Hillary, do you have any comments or questions to add?

Hilary Humphreys 17:40

I think Peter has summarised it well to reflect my own interpretation of data.

Jasmin Islam 17:48

Okay, great. In that case thank you, everyone for giving those summaries of the key updates in relation to the guidelines. We'll move on now to to addressing some of the questions that have come through from participants.



So first question how long the patient's considered a risk for MRSA once they have had a previous positive result?

And so I think I'll pass this one on to Hilary.

Hilary Humpreys 18:20

Thanks. Yeah, I mean, this is partly being covered in some of the discussion already. But I think that's essentially we can't say and the evidence isn't there. I mean, looking back on the previous set of guidelines, and compared to the one the current ones, and if people haven't actually accessed the guidelines yet, they're 40 pages long but there's an executive summary at the start with all the guidelines and then there's a table comparing previous guidelines to the current guidelines.

I suppose one of the differences is that the last set of guidelines were based upon often the evidence, but maybe not an analysis of how rigorous the evidence was. And as a result, there were sort of a lot of, shall we say more, more recommendations that perhaps were less precise. I think this set of guidelines, you'll notice, are quite specific in certain areas. And this is one area where again, the evidence isn't present.

So a lot of people do three sets of screening swabs after decolonization. And if they're clear, and they consider the patient MRSA negative, however, we don't really know how long the patient is negative. And one of the important things that's different from the set of guidelines is the importance of information for the patient. And to make sure the patient understands what a negative MRSA means if they've been MRSA positive before. It doesn't mean that we won't perhaps screen again. I think many people would screen again on readmission to the hospital. And obviously factors that will affect whether the patient becomes MRSA again, might be where they were carrying the MRSA, whether they've got underlying disease, whether they're exposed to antibiotics and various other factors that really the evidence doesn't tell us convincingly. But generally the more complex patients are probably more likely to require it or not fully have it suppressed. So I think the answer to that question is that

we can't be sure, and so I think many people would, at a practical level decide to rescreen on re-presentation. I don't know whether John and Peter might have comments on that too?

John Coia 20:18

I think the questions you've raised particularly with regard to the patient's subsequent layouts

Jasmin Islam 20:38

We've just got some issues with John's connectivity again, while we're just waiting

John Coia 20:44

and you know if the if there are still low numbers of the organism in action? Hello?

Jasmin Islam 21:13

Oh, yeah. Hi, John. We can we can still hear you we have just turned the video off, because I think that might be impacting on the connectivity. So I think unfortunately, we lost you for some of your answer there again. So if you're able to just briefly summarise

John Coia 21:28

Yes I can just briefly summarise, I think the point is with regards to, for example, antibiotic therapy, so if the patient still has low numbers of MRSA, for example, gut carriage and they receive antibiotic therapy, you can have amplification of the amount of the organism that is there so that it can be detectable again. So I think there's some good points that Hilary made.

Jasmin Islam 21:56

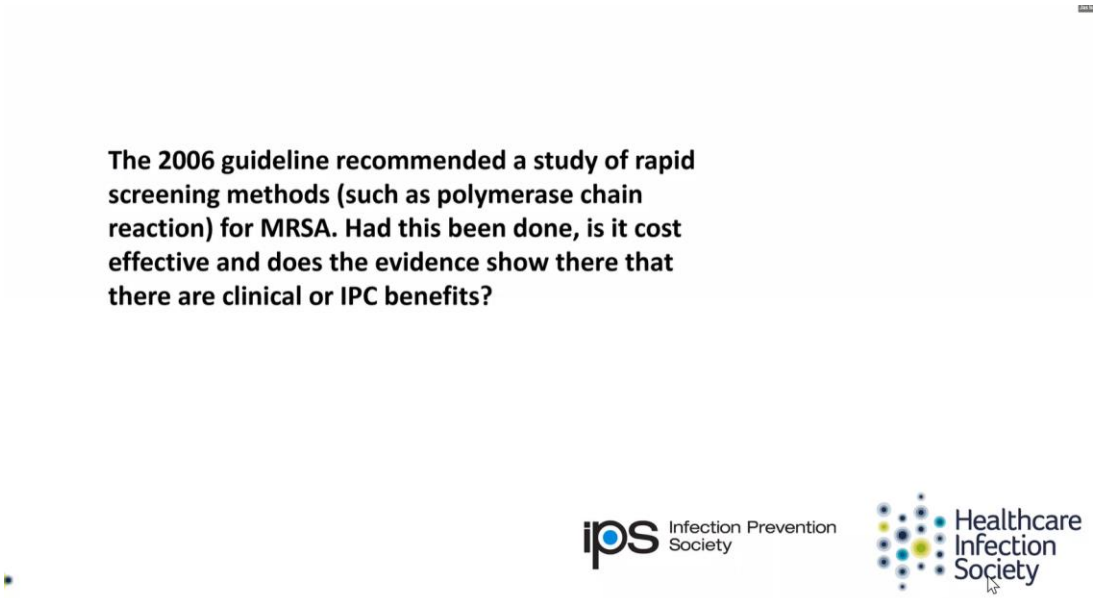
Thanks, John. Peter, did you want to comment at all?

Peter Wilson 22:01

No. I mean, once a patient has become positive, you almost have to assume they're always positive. It may be that of course that you wait long enough in the numbers of MRSA on the surface of the body are low enough so that you don't detect them and maybe that's fine. Maybe that's all you need, because that's going to be a reduced chance of shedding and acquisition by somebody else. But it is arbitrary. It's an arbitrary threshold. It's not genuinely eradicating the MRSA.

Jasmin Islam 22:40

Great, thank you, Peter. Any other final comments before we move on to the next question? No.



Okay, if we move on to that. So the 2006 previous guideline recommended a study of rapid screening methods such as PCR for MRSA. The question that we've had is has this actually been done? Is it cost effective? And does the evidence show that there are clinical infection control benefits? So I think this question is going to be John to answer.

John Coia 23:11

Hopefully, hopefully, we'll be able to hear my answer. Yeah, it's an interesting question. And we specifically addressed this issue in the guidance. And there was - it was interesting, because there were a large number of studies which looked at the diagnostic accuracy of, for example, PCR, or isothermal, amplification methods, and comparison with routine and cultural methods. And in fact, what those studies quite clearly showed was that there was little to choose in terms of the diagnostic accuracy. What was clear from studies was that yes, you could get a reduced turnaround time, which is not entirely surprising, because that's the raison d'etre for these rapid methods. However, whenever we then looked at studies to see if you could demonstrate clinical or cost effectiveness benefit from the use of these rapid molecular methods, then there really was not the evidence to support that. So our conclusion at the end of the day was that you can use either PCR or traditional culture methods as you consider appropriate depending on your local circumstances. So for example, you may have a large automated lab where you've heavily invested in PCR and you're routinely running a lot of PCR as well it may make sense to use PCR, but those are really operational issues and have to do with the organisation that allowed in terms of the benefits. We could not demonstrate from the literature that there was a benefit in using molecular methods or traditional culture. One of the points that we did pick up on is that you should remember that you want to retain the ability to perform culture, because at the moment, if you want to look at typing of isolates in possible outbreak situation, then the ability to have the isolates that you can, you can look at is quite important. Now, it may be that that is less of an advantage in future with advances in the way we can do sequencing from sample etc. Then that may not be something that is required so much in

the future, but it's certainly worth bearing in mind at the moment. So that's the point I would like to make.

Jasmin Islam 25:50

Thanks, John. Hilary, Peter, do you have any comments?

Hilary Humphreys 25:53

Yeah, I mean, I just add to that, I think there was a lot of excitement at the time the molecular tests came out and you know, the possibility of screening people on admission to ICU or emergency surgery, but, but I think the fall in MRSA with the practice of universal decolonization, and again, I guess, other priorities and when you look at it, when you look back now, you see that, you know, there's other things to want to screen by molecular methods, perhaps more of a priority than MRSA. So I think that's partly the view. One comment on cost effectiveness, I always think is, you know, you can look at it from a laboratory point of view it may not be cost effective as culture's, cheaper but of course, it may be cost effective sort of further down if you'd like the service chain as its very difficult to show that the relation in the context of the overall health service and of course to do those kinds of studies are quite challenging.

Peter Wilson 26:41

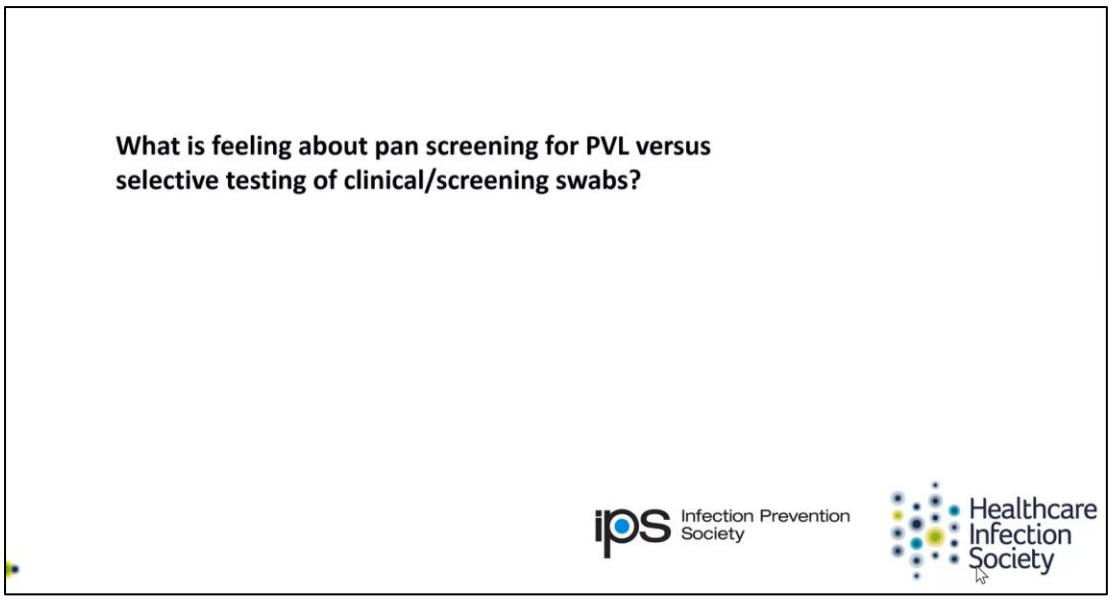
I mean, we used molecular MRSA screening in 2006 for about seven years. But and we thought it was effective, we thought, because the during that time the MRSA came down from about 4.5% down to 1%. But of course, I think really, that was mostly related to the national effort, and patients moving between hospitals without MRSA. And so it was because of collective effort with everybody using all sorts of different means of screening but they were all using screening. And of course, we like pretty well everywhere else that were using molecular screening was eventually told not to by the administration because it's too expensive.

Jasmin Islam 27:32

Yeah, see ongoing issue with logging infection control interventions that you can't unpick it from from everything else that's going on at the time.

Jasmin Islam 27:48

Okay, brilliant. So if we may want to if there's no other comments, we'll move on to the next question that you have. So, someone submitted what what is the feeling about pan screening for PVL versus selective testing and clinical or screening swabs? I think that this is a question for Peter.



Peter Wilson 28:07

Well, PVL has been in the news sort of more recently, we seen with the USA 300 variant. It's often an MRSA that carries the PVL and it's often a community acquired MRSA rather than a hospital acquired strain. So it is a fairly unusual organism and how often you're likely to see PVL is quite variable depending on which part of the country you're in. It does cause quite unpleasant skin and soft tissue infections. It can cause a necrotizing pneumonia endocarditis or an osteomyelitis. The issue as to whether you should be screening for it. Of course, that partly depends on local prevalence. It depends on how often you are seeing patients with recurrent boils, skin, furunculosis, particularly running in families. But generally speaking, a screen for it in most areas is not going to be cost effective. So really, I think we should only be screening for patients that you think may be affected by this or where there are family outbreaks of staphylococcal infection in the home. An important consequence of it though, is that if you use flucloxacillin on this particular strain, there is some suggestion that actually, it can make things worse, that you can actually potentially eat the infectivity of the organism. So you should be using Rifampicin doxycycline. But it's it's an interesting organism. I wouldn't pay for it to be screened universally, if you're having a particular outbreak. Or you have patients that you can see you're suspecting of PVL then it's worthwhile

Jasmin Islam 30:30

Thanks Peter - Hilary, John do you want to add anything to that?

Hilary Humphreys 30:37

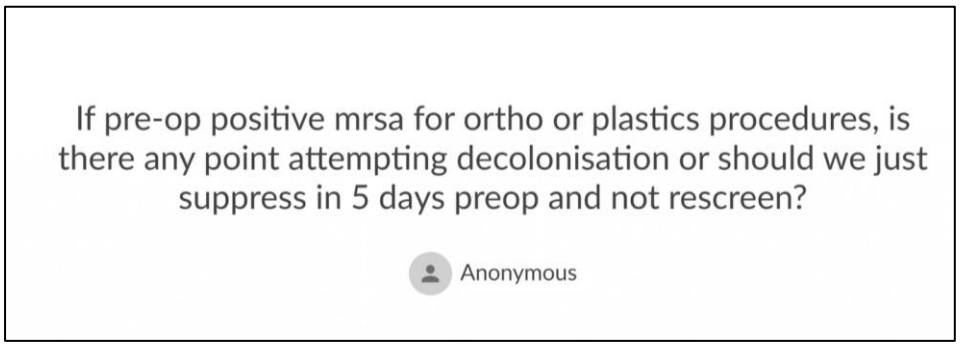
I think that very, very quickly, I'd agree with what Peter said. I suspect maybe those who might be screening all isolates may be doing so because they have a particular interest or they have a research facility but I agree with all the comments Peter said I think its something you would do selectively.

John Coia 30:50

Thanks – id also agree with everything that peter said.

Jasmin Islam 30:55

Great points. We move on to the next question now that has been submitted through Slido. These obviously are now questions that people have been submitting live as part of the webinar.



So pre op positive MRSA for Orthopaedics or plastics procedures, is there any point attempting decolonization or should we just suppress in five days preoperatively and not rescreen? Who would like to take this question from the panel.

Peter Wilson 31:27

I mean, I would suggest really that you just suppress in the five days pre op, not rescreen. If you do have time and it's not urgent surgery and you have time to do decolonisation and rescreen then yes, you might consider that. But just because you don't detect it after you've done decolonization doesn't mean it's there. It's not there. If you do the decolonization and do the surgery on day five, the MRSA will be there but it will be there in the smallest possible numbers, and so the risk could be small. Also, the effects of the decolonization lasts about two weeks before the MRSA grows back. So you'll have two weeks to do the surgery. Start to have the wound healed and importantly, not have an open wound. By the time MRSA grows back. So that's what I would suggest is the practical thing to do.

Hilary Humphreys 32:36

If I can come in I agree with that. I think you know it depends on whether it's emergency surgery, whether it's elective, it depends upon the time as well. One of the things and I think it's just come up on the chat is the issue of looking for Mupirocin resistance with universal decolonization or suppression and the absence of you know, screening. Subsequently, we may not pick up resistant resistance emerging, but I think a lot of this will be driven by practical considerations on the ground and particularly getting patients in and through the patient pathway for surgery.

Peter Wilson 33:09

I think with with emergency surgery, even if you've only got time to give one application of topical suppression, that's almost as good as giving five days. So as long as you get it in before scalpel cuts skin that's effective.

Jasmin Islam 33:33

Great. Any other comments, John?

John Coia 33:37

Yeah. I think that this whole question of the bioburden reduction, if you like, in terms of you know, it realistically is that is whats important, and I think that probably is what's important and I think that that's an important message for particularly when you're faced with surgery which is difficult for one reason or another, either to postpone or it's an urgent situation, and the ability to reduce the amount of organism that is present it can actually have a significant effect.

Jasmin Islam 34:20

Okay, great with no more comments, we'll move on to next question.

Anybody would like to suggest any recommendations for the decolonisation of tracheostomy sites?

Peter Wilson 34:50

I think that is really difficult. You can't easily apply anything to a tracheostomy site. Maybe the skin itself, but certainly not any mucous membrane because they just are ineffective. Really the best you can do is systemic prophylaxis, covering the surgery and getting the wound as clean and as dry as you can but really what you can do is quite limited.

John Coia 35:24

I would agree that's that's a, that's a very difficult one. And I think that again, you would be falling back very much on from choice prophylaxis that you might use in that situation.

Hilary Humphreys 35:40

Yeah, I mean, I do the thing I'd add to that as well as obviously if it's on the tracheostomy side, it may be in the nose. So as one would assume one would screen for MRSA and obviously then decolonize or suppress carriage in other sites. And most of the time when you see this maybe with associated with some degree of local cellulitis which obviously requires systemic treatment, but a really difficult challenging one, you know, with an organism and broken skin so it's kind of like a vicious cycle.

Peter Wilson 36:07

And I think if you've got a patient with a wound with MRSA in it, which you can't eradicate it may still be worth suppressing them from the other sites so that they are at least cutting some of the MRSA that they're shedding into the environment.

Jasmin Islam 36:29

It comes down to that point that you raised earlier about trying to reduce the overall bioburden for that individual to try and improve outcomes that way, even if it's indirect slightly.

John Coia 36:39

Yeah, I think that's absolutely right. I think there's question that that is definitely a numbers game here. And that balance between the host events and the virials of the organism and the amount of the organism is clearly a complex interaction, but if you can do something that can give you a bit of an edge there then I think it's better for better prospects for the patient.

Jasmin Islam 37:06

Great. fine. We'll move on to the next question.

So what what are the panel's views on using decolonization agents other than Mupirocin eg Protoderm foam?

Hilary Humphreys 37:27

I could start with this one, Jasmin, if you wish. And yeah, in the guidelines, there's a very extensive literature review on decolonization or suppressive regiments and essentially, you know, there's evidence for Mupirocin, Chlorohexidine and Oxendine, which you know, is really rigorous. There are a lot of other compounds for which there's sort of biological or in vitro evidence or small studies or you know, suggestive studies that they may have a role but nothing exhaustive such that you could put it in a recommendation and hence the recommendations are largely as you might expect. I mean, what we probably do need are alternatives to Mupirocin & Chlorohexidine and in fact that's, there's a section also in the guidelines on you know, research questions that need to be addressed. And I think certainly alternatives to Mupirocin particularly because of resistance are needed and some of the compounds suggested as the one mentioned there may have a potential role, but the studies are just not rigorous, rigorous enough to include in the recommendations at the moment

Jasmin Islam 38:34

thanks, Hilary, anybody, Peter or John Doe to add anything to that, or comment on how we could move towards trying to get people to do more, you know, broader studies in some of the smaller agents that perhaps aren't as well taken.

John Coia 38:51

I started so I'll finish as they say the I think that this question of having sufficient evidence to make a recommendation or guideline like there's something that that is always going to be a difficult thing. Clearly, there is a need for more research in this area, to look at these agents to to see one way or another what is likely to prevent it and at the moment there simply isn't enough evidence to make a judgement.

Peter Wilson 39:30

I mean, I would just, if you're looking to adopt an agent for your hospital, that you choose one of those two, and you're mupirocin or the alternative because the other ones, although they may be effective, the evidence really isn't there. And you may not be doing a great service to your patients as a result. So I would be quite careful what you do. If, however, you've got somebody who's cannot have either of them for some reason, maybe an allergic reaction, then it may be worth trying one of the other agents.

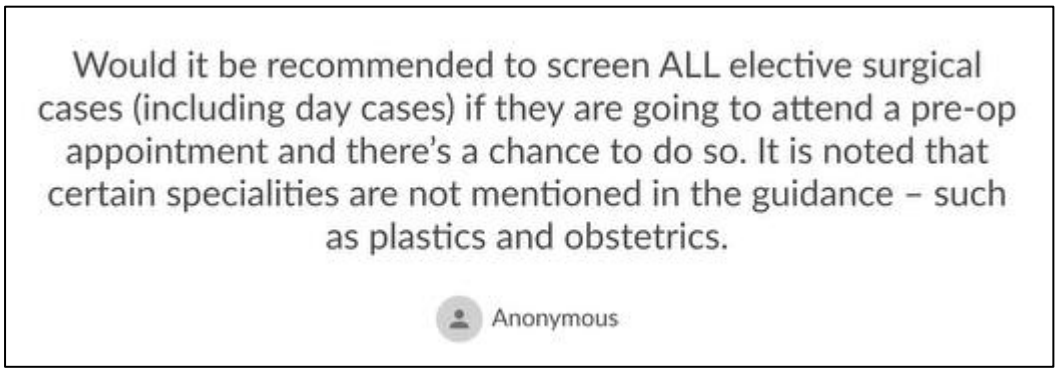
Hilary Humphreys 40:06

I mean, just to finally comment for me on this. I think one of the difficulties here is that many of these compounds are either off patent or fused by smaller companies. And so to get the funding and to do the kind of complex trials that we need to do is very, very challenging, but it's very possible that some of them may may or may have a role, but the evidence is simply not there at the moment.

Jasmin Islam 40:31

And I think that's an important point, though, that that often, it may be that those kinds of research studies are often quite quite greatly delayed until when it actually becomes critical. We see a huge emergence, comparison and it's and so there's often a time lag with actually the time it would take to develop that body of evidence, but obviously because of competing priorities in academia that is often overlooked, but it's I think it's an important point. Okay, great.

So if we want the next question. Still, would it be recommended to screen all in capital letters elective surgical cases, including day cases if they are going to attend a pre op appointment, and there's a chance to do so. It's nice that certain specialties are not mentioned the guidance such as plastics and obstetrics.



John Coia 41:35

If I started maybe start on that one. I think, again, this comes down a lot to the question of what is instant evidence of it being clinically and cost effective to do that? And at the moment, I don't think that the evidence is there to see that screening all patients alike to patients. I'm not aware that the evidence is there to support that as yet and certainly it's not something that we found in the development of these guidelines, but be interested to hear what they understand

Peter Wilson 42:02

When we went from Universal surgical screening to targeted screening. He was simply the prevalence of MRSA in the country had fallen because the control programmes had been quite successful, and it was no longer cost effective. You will of course be treating 9 times or 99 times sometimes as many people for MRSA, we've actually got it and that does have a lot of implications in terms of adverse effects, but also nursing time and follow up time with the GP's can be quite a problem. So it's really it's a cost benefit analysis.

John Coia 42:54

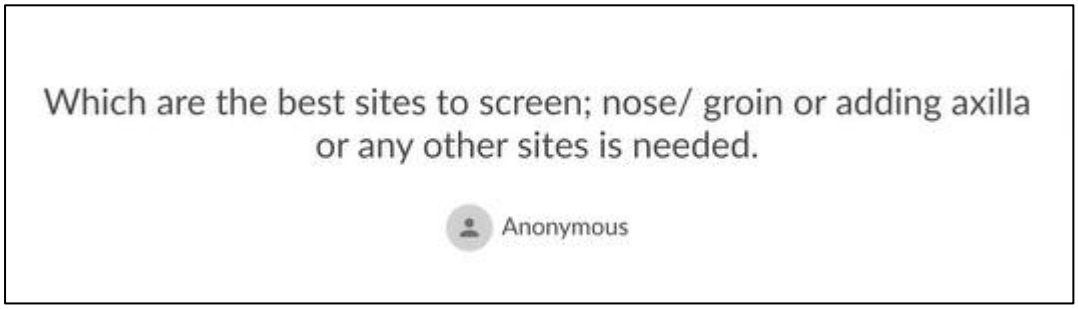
It's not only in terms of the adverse effects, but also in terms of worrying about resistance to agents such as mupirocin then I think that's also a very important consideration if we're going to increase the use of antimicrobial agents. I think increasingly as we're seeing with the problem that not only in terms of MRSA but other organisms with antibiotic resistance, and the global problem that that represents, I think we have to be careful at looking at that risk benefit analysis and be sure that there is a benefit to our use of antimicrobial agents.

Hilary Humphreys 43:31

Yeah, my I agree with what's been said. I think the other thing I'd say is unless there is local epidemiology or you have a particular problem in a unit and a cluster of cases I wouldn't be thinking of universal pre op screening. I think it would consume resources that might be used elsewhere. And I mean, the literature is quite specific about two sub categories of surgery. Those were skin organisms are likely to cause post operative infection that particularly serious postoperative infections. So for example, general abdominal surgical operations generally don't benefit because a lot of those infections are endogenous from the bowel floor itself.

Jasmin Islam 44:13

Thank you, and should be much next question. So hopefully it should be quite straightforward on which which of the best sites to screen nose or groin or adding axxilaryor any of the sites that are needed? Does anyone want to take that?



Peter Wilson 44:43

The silence says a lot. There, I mean, the evidence in the document really just says two sites. It doesn't stipulate which two sites. Clearly the nose tends to be the main reservoir for the body not only because you're that's where you're breathing it in. That's where fingers go, and fingers, pick it up from the surface and go to the nose. But as to which of the others much more problematic. You will isolate it more often in in certain areas, like the the groin, maybe than the hairline. But I think the evidence isn't there to say what your second option should be. It's just it's best to do at these two sites.

Hilary Humphreys 45:35

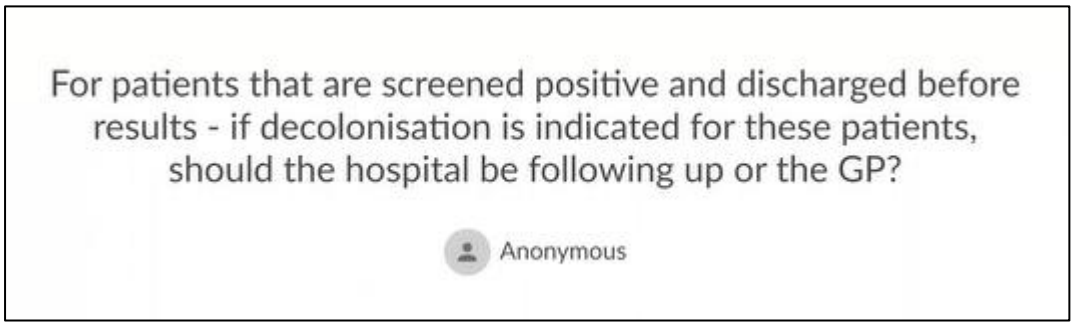
Yeah, I mean, I think the you know, the evidence suggests that the more sites you screen, the more likely you are to pick it up. But there's sort of the law of diminishing returns as you extend the size of sampling. I mean, I think any area of abnormal or broken skin you might want to do as well or perhaps the area near a device such as we just talked about a tracheotomy site but I think nose and groin perineum for the sort of regular patient as it where or the pre op screen I think probably the two that you should focus on.

John Coia 46:09

I would agree with that.

Jasmin Islam 46:10

Okay, great. I think it's probably not much more to add on to that. So if we move on to the next question. Patients as being positive and discharged before results. If decolonization is indicated these patients should the hospital before you or the GP.



Hilary Humphreys 46:31

You want me to start on this one? Yeah, I suppose you know, again, the guidelines are not specific on this. But I think in terms of decolonization, you have to ask yourself, you know, your decolonizing or perhaps more correct term of suppression given the comments we've already had, if you're trying to start suppressive therapy, you know, you have got to have a clear objective, if the patient has been discharged home, obviously to a fairly healthy environment, then it's probably not indicated but clearly the patient and the GP need to know in terms of either readmission in terms of in hospitals, you know, the practice often is to decolonize but actually, you know, people need to be clear what it is, are they trying to prevent spread to other patients are they trying to prevent say spread from the nose from tracheotomy side or whatever? And we probably may actually decolonise supress therapy in more patients than absolutely necessary. On the other hand, if you find that there, it's very difficult not to do something about it given the risk to that patient and indeed to other patients but I think in the circumstances here, where patients gone home, on this basis when you have surgery coming up or is at risk for some other reason. And if the patient is recovered fully, probably not but the others might disagree.

John Coia 47:50

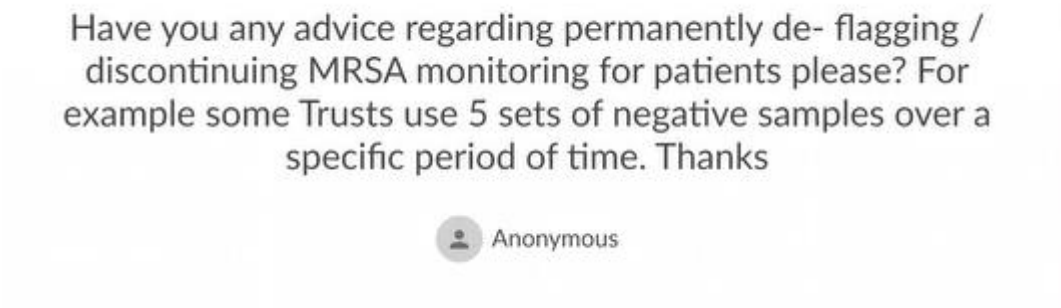
I mean, it just again, well, firstly, I think that in terms of is an evidence based recommendation, and no, it's not. But in terms of pragmatic experience, I think I would tend to agree with what Hilary is saying if you know if the patient is due to has been discharged, but it's going to be coming back again soon for surgical procedure, then it makes sense for this patient who is discharged home well is not imminently going to be back in hospital for planned admission procedure, then I don't think that it makes sense but I think there were there was also a good point that you made in terms of if you are screening this whole thing is we've said in the guidance whenever you perform screening, I think it's important to be clear what you're going to do, with the positives that you find and you know, have a plan for that. And you know, there could be many reasons why you would want to follow a patient who is in hospital to who you detect MRSA carriage to prevent spread to other patients because the risk to the patient themselves that you may want to decolonize and that's that's an object for the target that you have set for your your hospital it's important to be clear why are we going to do whatever you find a screen positive. That's not just for MRSA.

Peter Wilson 49:20

I think it's quite, well it's very useful. If you're doing topical suppression in the hospital if you run out of side rooms to put an MRSA patient in because that will render them unlikely to transmit infection to others for at least a couple of weeks. But if somebody is going home then unless there's a special reason say they've still got an open wound that your worried might become infected with MRSA. It's just it just doesn't make any sense to try and get rid of it because you won't probably get rid of it. You'll just suppress it for a couple of weeks and then it'll come back.

Jasmin Islam 21:44

Okay, great. Thank you. I think we've got time for one or two more questions. So what next question Have you any advice regarding permanently D flagging or discontinuing MRSA monitoring for patients please? Example psychiatrists use five sets of negative samples over a specific period of time. Thanks. So I think this has been slightly covered by some of the questions and answers we've had in terms of different Peters screening but I don't if anyone wants to just comment on on this.



John Coia 50:37

I think I could start and say I think you're right. I think that it's coming back again to what is the evidence in terms of you know, is there a certain number of screens you can take and say that a patient is thereafter negative. And I think we've already heard, you can't do that. So I think that there just isn't the evidence to say that, you know, after 5, 10 or whatever screens are over a period of time, that the patient is negative. And I think certainly my practice would be that if there is a patient readmitted previously positive I'd probably screen them again.

Hilary Humphreys 51:18

I'd agree with that. I mean, if there may be pressure by the patient who likes the idea that he or she is now MRSA and negative and therefore, they're at risk, but given what we've already said about the numbers and the supression if you de flag I suppose to find what you would find is, you know, patient may come in again and what you may find is patient may have MRSA and it goes unnoticed. So it's a really difficult one balance, I think in terms of just be trying to confirm suppression of MRSA how you communicate that to the patient and particularly to emphasise to him or her that it doesn't necessarily mean that it will never come back or you will never be positive again. But it seems to me tests to date indicate that we can't detect MRSA as opposed to there's no MRSA there. Would you

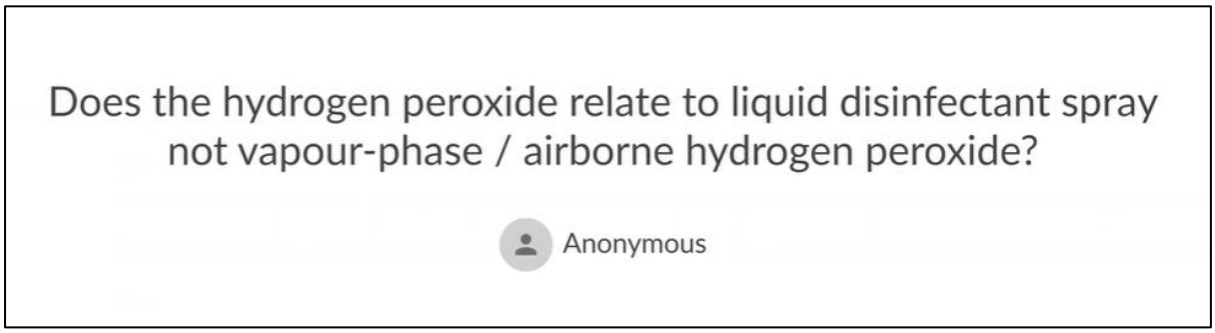
be flagged I suppose, you've lost the possibility of highlighting that patient might be screened when they come in again.

Peter Wilson 52:08

I mean, I can see the the pressure to do a deflag, but you're right, it doesn't actually mean anything, even if you don't detect it on the skin, it may well still be there in the gut. From the little evidence we know about very long term studies the MRSA does eventually go but it may take years and probably it's it's mainly in patients who don't see a lot of antibiotics in subsequent years and then gradually their own Flora destroys it. But it takes a long, long time. So I think it's, it may be it may seem pragmatic but it's not actually evidence based.

Jasmin Islam 52:54

We've probably got time for one last question. Does the hydrogen peroxide relate to liquid disinfectant sprays not vapour phase or airborne hydrogen peroxide? I assume this is in relation to Peters earlier comment.



Peter Wilson 53:21

Yeah, so the studies I was mentioning were related to the the aerosolized or vapour hydrogen peroxide that is used to decontaminate room. But if you're using a hydrogen peroxide based disinfectant, that too is highly effective. These are this is an agent that produces on numbers of organisms, including MRSA really vary dramatically and is rather better than other disinfectants. But that's not to say the cleaning doesn't work in the cleaning absolutely does work. The problem is that it's the cleaner not finding every particular bit of the surface and applying disinfecting to it on average, a cleaner will miss 30% of the environment with a single clean so you can use one of these adjunctive methods of cleaning UV or hydrogen peroxide and they will give you better coverage than a manual clean. But if you don't want to use one of those machines, and they are expensive and they do have toxicity issues, then clean the area again. So if you're seeing a problem with MRSA in a particular area, and you're suspicious that it might be related to the cleaning, double the number of cleans that you do.

Hilary Humphreys 54:55

I think sorry go on, you know, I agree Peter, I think the vaporised has the benefit that it just kind of frayed so well to add a rumour to a clinical area and also were there any MRSA in the air if you look

for MRSA in the air you can find it it helps there as well. And, you know, and hydrogen peroxide is such a highly active antibacterial agent, very effective from that point of view.

Jasmin Islam 55:34

Okay, great. Any last comments in relation to this question or generally, I think to the webinar at large? Okay, so I'd like to just thank everyone for attending and participating the webinar saying particularly thank you to our panel. So Hilary Humphreys, Peter Wilson and John Coia for taking the time to address people's questions and provide succinct updates of them, especially the guidelines. So certificates of attendance will be sent out after the event and a recording and transcript of the webinar will be available on webinar after the after the event and to be able to access it through the his website. So thanks very much for watching.