## Impressum | Datenschutz

## ESGIAI questionnaire on microbiological diagnostic procedures for Prosthetic Joint Infection (PJI)



This tool has been developed to survey current practice in the diagnosis of PJI in

microbiology laboratories.

## Dear colleague,

Thank you very much for participating in this anonymous survey on diagnostic procedures in the laboratory for periprosthetic joint infection.

The objective of this project is to describe current practices among laboratories in different settings and extrapolate recommendations for a potential consensus. The survey was initiated by ESCMID study group for implant infection (ESGIAI). As a national delegate we kindly ask that you and one of your colleagues from your lab answer the questionnaire each independently. This will improve validity of the project in the role out.

The length of the questionnaire was estimated with 30 minutes. In case of questions please contact tobias.kramer@charite.de

Thank you for your work.

## General Information: Your laboratory and the hospital(s) you serve

○ Belgium	
○ France	
<ul><li>○ Germany</li></ul>	
○ Italy	
○ The Netherla	ands
○ Spain	
O None of the	above
laboratory is l	ne first two letters of the town where ocated and the last two numbers of you n 10551= BE51)
laboratory is l	ocated and the last two numbers of you
laboratory is loode (e.g. Berlin	ocated and the last two numbers of you
laboratory is loode (e.g. Berling)	ocated and the last two numbers of you n 10551= BE51)
laboratory is loode (e.g. Berling)  3. What is you  Specialist in	ocated and the last two numbers of youn 10551= BE51) r profession? (single answer)
laboratory is loode (e.g. Berling)  3. What is you  Specialist in	r profession? (single answer) clinical microbiology inical microbiology

official organization? (single answer):

O V					
○ Yes					
○ No	,				
○ Don't know	<i>I</i>				
* 5. What type laboratory serv					does your
☐ University/	teachin'	ıg hospi	tal		
☐ Public hosp	oital				
☐ Private hos	spital/cl	inic			
□ Nursing ho	me				
☐ General pra	actition	er			
Other- plea	ase spe	cify:			
* 6. Does your information to for pre-analytic (single answer)	on sam	pling a	nd othe	r import	ant factors
○ Yes	=				
○ No					
<ul><li>Don't know</li><li>* 7. What type when diagnosir answers)</li></ul>	of sam	-			
* 7. What type when diagnosir answers)	of sam ng pros	-			
* 7. What type when diagnosir answers)  Synovial flue Bone tissue	of sam ng pros uid	thetic j	oint infe	ection?	
* 7. What type when diagnosir answers)  Synovial flu Bone tissue Intraoperat	of sam ng pros uid e tive swa	thetic jo	oint infe	ection?	
* 7. What type when diagnosir answers)  Synovial flue Bone tissue Intraoperate	of saming pros uid e tive swa	thetic joint in the state of th	novium	ection?	
* 7. What type when diagnosin answers)  Synovial fluth Bone tissue Intraoperat Intraoperat Prosthetic	of samula of sam	ab of sy ab of tis mobile	novium	ection?	
* 7. What type when diagnosir answers)  Synovial fluth Bone tissue Intraoperat Intraoperat Prosthetic:	of sam ng pros  uid e tive swa tive swa joint or er than	ab of sy ab of tis mobile bone	novium	ection?	
* 7. What type when diagnosin answers)  Synovial fluth Bone tissue Intraoperat Intraoperat Prosthetic	of sam ng pros  uid e tive swa tive swa joint or er than	ab of sy ab of tis mobile bone	novium	ection?	
* 7. What type when diagnosir answers)  Synovial fluth Bone tissue Intraoperat Intraoperat Prosthetic:	of saming prosecution of swaper than ase specive also receive also received	ab of sy ab of tis mobile bone cify:	novium ssue (bo parts	ne)	oximately mples
* 7. What type when diagnosing answers)  Synovial fluth Bone tissue Intraoperate Intraoperate Tissue other Other- please * 8. When you how often you in the substitution of the substituti	of saming pros	ab of sy ab of tis mobile bone cify:	novium ssue (bo	es, apprees of sa	eximately mples We do not
* 7. What type when diagnosing answers)  Synovial fluth Bone tissue Intraoperate Intraoperate Tissue other Other- please * 8. When you how often you in the substitution of the substituti	of saming prosecution of swaper than ase specive also receive also received	ab of sy ab of tis mobile bone cify:	novium ssue (bo parts	ne)	oximately mples We do
* 7. What type when diagnosing answers)  Synovial fluth Bone tissue Intraoperate Intraoperate Tissue other Other- please * 8. When you how often you in the substitution of the substituti	of saming prosecuted with the swarp of saming the swarp of saming the swarp of saming the saming of saming the saming of saming the saming of sami	ab of sy ab of tis mobile bone cify: tissue ceive ot:?	novium sue (bo parts  sample her typ  50- 75% of	es, approes of sa	oximately mples  We do not receive this type of
* 7. What type when diagnosin answers)  Synovial fluth Bone tissue Intraoperate Prosthetic: Tissue other Other- please  * 8. When you how often you afrom the same	of saming prosecution of saming prosecution of saming prosecution of saming prosecution of saming of saming prosecution of saming pr	ab of sy ab of tis mobile bone cify: tissue ceive ot ?	novium sue (bo parts  sample ther typ	es, approes of sa	eximately mples  We do not receive this
* 7. What type when diagnosin answers)  Synovial flue Bone tissue Intraoperate Prosthetic: Tissue other Other- please  * 8. When you how often you afrom the same	of saming prosecuted with the swarp of saming the swarp of saming the swarp of saming the saming of saming the saming of saming the saming of sami	ab of sy ab of tis mobile bone cify: tissue ceive ot:?	novium sue (bo parts  sample her typ  50- 75% of	es, approes of sa	oximately mples  We do not receive this type of
* 7. What type when diagnosin answers)  Synovial fluth Bone tissue Intraoperate Prosthetic: Tissue other Other- please  * 8. When you how often you afrom the same	of saming prosecution of saming prosecution of saming prosecution of saming prosecution of saming of saming prosecution of saming pr	ab of sy ab of tis mobile bone cify: tissue ceive ot:?	novium sue (bo parts  sample her typ  50- 75% of	es, approes of sa	oximately mples  We do not receive this type of
* 7. What type when diagnosin answers)  Synovial flue Bone tissue Intraoperate Intraoperate Tissue other Other- please  * 8. When you how often you afrom the same  Synovial fluid Synovial fluid in blood	of saming prosective swattive swattive swattive swattive swattive specification of the control o	ab of sy ab of tis mobile bone cify: tissue ceive ot:?	novium sue (bo parts  sample ther typ  50- 75% of cases	es, approes of sa	oximately mples  We do not receive this type of

	0- 25% of cases	25– 50% of cases	50- 75% of cases	75- 100% of cases	We do not receive this type of material
Prosthetic joint Explanted foreign bodies (Prosthesis, fracture fixation devices, e.g.)	0	0	0	0	0
Prosthetic joint swabs	$\circ$	$\circ$	$\circ$	$\circ$	0
Intraoperative tissue swabs	$\circ$	$\circ$	$\circ$	$\circ$	0
Fistula swabs	$\circ$	$\circ$	$\circ$	0	0
on a regular basingle patient?  We do not  1  2-3  4-6  more than	(single regular	answe	r)	-	
	O				
		porting	sampl	es	
• 10. How are transported fro aboratory? (m	Transpose the exp	lanted o	foreign ng theat	bodies	_
ransported fro	the export the coultiple are regular erile conclution is solution ent median of un	lanted apperatir answers by receiventainer in a ster n in a si dia (bro	foreign ng theat s) ve this t rile cont terile co	bodies of the standard of the	<b>e</b> ample.
mansported from aboratory? (min)  We do not  Dry in a steem of the seem of the	the exponent the coultiple and regular solution is solution and of under the country of the coun	lanted answers by receiventainer in a ster in in a si dia (bro known cify:	foreign ng theat s)  ve this t rile cont terile co th in a s type in	bodies of the type of some ontainer ontainer asterile asterile	e ample. sported
mansported from aboratory? (min)  We do not  Dry in a stern in saline series  In Ringer's  In enrichmon container)  In a solution container  Other- please  11. How are stern the operate (multiple answer)  We do not	the export the coultiple and regular means of understanding the ers)	lanted answers  ly receive that an a sterm in a sterm i	foreign ng theat s)  ve this t rile cont terile co th in a s type in  routing	bodies of the sype of some of the sterile asterile borator	ample.  sported y?
mansported from aboratory? (min)  We do not  Dry in a steem of the seem of the operation of	the exponent the coultiple a regular erile continued on of underse specially the ers)	lanted in peratir answers  ly receive that an a sterm in a sterm i	foreign ng theat s)  ve this t rile cont terile co th in a s type in  routine your la	bodies in the type of sainer intainer sterile a sterile borator bype of s	ample.  sported y?

☐ In enrichme	inc incara	(		
container)				
<ul><li>In a solution container</li></ul>	n of unkno	own type in a ster	ile	
□ Via a specia             A-Cul )	l tissue tra	ansport system (	e.g. Port-	
Other- pleas	se specify:			
Proces	sing sam	ples: Synovial f	luid	
-		: and differentiat fluid? (single ans		ıber
○ Yes, qualitat	tively usin	g a microscope		
O Yes, automa counter	atically usi	ng an automatic	cell	
○ No				
13. How much lates? (single a		fluid is plated or	agar	
<ul><li>No pre-dete drops varies</li></ul>		nount, the numbe	er of	
We do not uplates.	sually plat	te synovial fluid c	n	
piacesi				
in μl:		novial fluid into l	olood cult	ure
14. Do you incontles? (single  No, but we incontled to blood culture)	answer) routinely r e bottles.	receive synovial fl	uid in	ure
14. Do you incottles? (single  No, but we include the blood culture)	answer) routinely re bottles. ot usually	receive synovial fl	uid in	ure
14. Do you incontles? (single  No, but we incontled to blood culture)  No, we do n	answer) routinely re bottles. ot usually blood cultu	receive synovial fl inoculate or rece ure bottles.	uid in	ure
14. Do you incottles? (single  No, but we include the blood culture)  No, we do not synovial in the control of the column.	answer) routinely re bottles. ot usually blood cultu uch in ml?	receive synovial fl inoculate or rece ure bottles.	uid in ive	
14. Do you incottles? (single  No, but we include the blood culture)  No, we do not synovial in the synovial in the synovial synovia	answer) routinely re bottles. ot usually plood cultu uch in ml? amples: I	receive synovial fl inoculate or rece ure bottles.	uid in ive <b>gn bodies</b>	5
14. Do you incottles? (single  No, but we include the blood culture)  No, we do not synovial in the synovial in the synovial synovia	answer) routinely re bottles. ot usually plood cultu uch in ml? amples: I	inoculate or receive bottles.  Explanted foreignments the following	uid in ive <b>gn bodies</b>	5
14. Do you incottles? (single  No, but we include the blood culture)  No, we do not synovial in the synovial in the processing single.	routinely re bottles. ot usually blood cultuuch in ml? amples: I	receive synovial fluinoculate or receive bottles.  Explanted foreignment of the following reign materials?	uid in ive gn bodies processe	5
in µl:  14. Do you incottles? (single  No, but we in blood cultur  No, we do in synovial in the yes. How miles. How miles are processing single.  15. Does your outinely on exp	routinely re bottles. ot usually blood cultuuch in ml? amples: I	receive synovial fluinoculate or receive bottles.  Explanted foreignment of the following reign materials?	uid in ive gn bodies processe	5
14. Do you incottles? (single  No, but we incottles? (single  No, we do in synovial in the syn	routinely re bottles. ot usually plood cultuuch in ml? amples: I lab performanted for Yes  on is adde	receive synovial fluinoculate or receive bottles.  Explanted foreignment of the following reign materials?	uid in ive  gn bodies  processes  No	S
14. Do you incontiles? (single  No, but we incontiles? (single  No, we do in synovial in the s	routinely re bottles. ot usually plood cultuuch in ml? amples: I lab performanted for Yes on is added sonication	inoculate or receive bottles.  Explanted foreign materials?  Uncertain	uid in ive  gn bodies  processes  No	S
14. Do you incontiles? (single  No, but we include the blood cultur.  No, we do in synovial in the yes. How many and the processing second the blood the processing second the blood the b	answer) routinely re bottles. ot usually blood cultured in ml? amples: I lab performance for Yes on is added a sonication	inoculate or receive bottles.  Explanted foreign materials?  Uncertain	uid in ive  gn bodies  processes  No	S

○ DTT
<ul> <li>Explanted foreign devices we receive are usually already in liquid which we cannot identify.</li> </ul>
○ We do not process this type of sample.
Other- please specify:
* 17. Do you centrifuge foreign body samples prior to plating in cases of suspected PJI? (single answer)
○ Yes, for DTT
○ Yes, for sonicate fluid
○ No
○ We do not process this type of sample
18. Do you inoculate sonication fluid/DTT into blood culture bottles? (single answer)
<ul><li>We do not process this type of sample.</li><li>No</li></ul>
○ Yes. How much in ml (per bottle)?
Processing samples: Tissue
* 19. What process do you perform on tissue samples? (single answer)
○ Tissue is only rolled on the agar.
<ul> <li>Tissue is only rolled on the agar but is then put into another media (e.g. enrichment media, blood culture bottles).</li> </ul>
○ Tissue is pre-processed (e.g. by grinding).
Sterile liquid (e.g. broth) is added and the agar is inoculated into this liquid.
Sterile liquid (e.g. broth) is added and the
Sterile liquid (e.g. broth) is added and the agar is inoculated into this liquid.  Tissue is pre-processed (e.g. by grinding). Sterile liquid (e.g. broth) is added and the agar or enrichment media is inoculated using
Sterile liquid (e.g. broth) is added and the agar is inoculated into this liquid.  Tissue is pre-processed (e.g. by grinding). Sterile liquid (e.g. broth) is added and the agar or enrichment media is inoculated using the fluid.  We do not regularly receive this type of
Sterile liquid (e.g. broth) is added and the agar is inoculated into this liquid.  Tissue is pre-processed (e.g. by grinding). Sterile liquid (e.g. broth) is added and the agar or enrichment media is inoculated using the fluid.  We do not regularly receive this type of sample.
Sterile liquid (e.g. broth) is added and the agar is inoculated into this liquid.  Tissue is pre-processed (e.g. by grinding). Sterile liquid (e.g. broth) is added and the agar or enrichment media is inoculated using the fluid.  We do not regularly receive this type of sample.
Sterile liquid (e.g. broth) is added and the agar is inoculated into this liquid.  Tissue is pre-processed (e.g. by grinding). Sterile liquid (e.g. broth) is added and the agar or enrichment media is inoculated using the fluid.  We do not regularly receive this type of sample.  Other- please specify:  * 20. Do you centrifuge tissue samples prior to plating
Sterile liquid (e.g. broth) is added and the agar is inoculated into this liquid.  Tissue is pre-processed (e.g. by grinding). Sterile liquid (e.g. broth) is added and the agar or enrichment media is inoculated using the fluid.  We do not regularly receive this type of sample.  Other- please specify:  * 20. Do you centrifuge tissue samples prior to plating in cases of suspected PJI? (single answer)
Sterile liquid (e.g. broth) is added and the agar is inoculated into this liquid.  Tissue is pre-processed (e.g. by grinding). Sterile liquid (e.g. broth) is added and the agar or enrichment media is inoculated using the fluid.  We do not regularly receive this type of sample.  Other- please specify:  * 20. Do you centrifuge tissue samples prior to plating in cases of suspected PJI? (single answer)  Yes No  * 21. If you pre-process tissue samples, how much of the fluid obtained from processing is inoculated on the

O in ml:						, , , , , , , , , , , , , , , , , , ,
Culture	e media	a and d	uration	of cultu	ıring	
* 22. Which culturing in capply)		_	_		-	
☐ Blood ag	ar plate	!				
☐ Anaerobi	ic blood	agar pla	ate			
☐ Chocolat	e agar p	olate				
☐ MacConk	cey					
Any chro	_					
Other- p	lease sp	ecify:				
* 23. What to			-		curing in	
☐ We do no	ot use e	nrichme	nt media	a/ broth.		
☐ Brain hea	art infus	sion				
Schaedle	er					
	ollate					
Other- p	lease sp	ecify:				
* 24. Do you for cases of s  We do not Pediatric	<b>suspect</b> oot use b	ed PJI?	( <b>multipl</b> e ture bott	e answe		
☐ Anaerobi	ic blood	culture				
☐ Aerobic l						
* 25. Please answer)	choose	the cor	rect ans	wers. (s	ingle	
	less than			more than	We do not	
	3	3-7	7-14 days	14 days	incubate those	
How long do you incubate aerobic agar plates in cases of suspected PJI?	days	days	O	O	O	
How long do you incubate anaerobic agar plates in cases of suspected PJI?	0	0	0	0	0	

	less than 3 days	3-7 days	7-14 days	more than 14 days	We do not incubate those
How long do you incubate in blood culture bottles in cases of suspected PJI?	0	0	0	0	0
How long do you incubate enrichment broth in cases of suspected PJI?	0	0	0	0	0
* 26. Do you organisms (N (multiple ans	Мусоbас	_			
☐ Yes, for ☐ Yes, for ☐ No, only ☐ No	patients	with pre	evious no	egative	results
Reporting, i	identifi	cation a	ınd susc	eptibili	ty testing
	o you id	entify b	acteria?	(multip	le
answers)	-	entify b	acteria?	(multip	le
manswers)	OF	-	acteria?	(multip	le
answers)	OF nical test	:s	acteria?	(multip	le
manswers)  MALDI-T Biochem Other- p	OF lical test	es pecify:			
manswers)  MALDI-T Biochem Other- p  28. How do answers)  Qualitati	TOF  nical test  please sp  o you re	eport the	e <b>identifi</b> sence/al	cation?	(multiple
* 28. How do answers)  Qualitati micro-or	TOF  nical test  please sp  o you re  ive (only  rganisms	eport the the press is repo	e <b>identifi</b> sence/al rted) gories, e	cation?	<b>(multiple</b>
MALDI-T Biochem Other- p  * 28. How do answers) Qualitati micro-or	TOF  nical test  nical test  no you re  nive (only  rganisms  nantitativ  nl, more	eport the the press is repo	sence/al rted) gories, e	cation? osence o	<b>(multiple</b> of
manswers)  MALDI-T Biochem Other- p  28. How do answers) Qualitati micro-or Semi-qu 50CFU/r Quantitat	TOF  nical test  please sp  o you re  ive (only  rganisms  antitativ  nl, more  ative (e.	eport the  the pressis repo  (category than 50)  g. exact	sence/al rted) gories, e OCFU/ml amount	cation?  osence of the control of th	(multiple of than
Biochem  Biochem  38. How do answers)  Qualitati micro-or Semi-qu 50CFU/r	TOF  nical test  please sp  o you re  ive (only  rganisms  antitation  nl, more  ative (e	eport the  the pressis repo  (category than 50)  g. exact	sence/al rted) gories, e OCFU/ml amount	cation?  osence of the control of th	(multiple of than
MALDI-T  Biochem  Other- p  * 28. How do answers)  Qualitati micro-or  Semi-qu 50CFU/r  Quantitate  * 29. How do Susceptibility	TOF  nical test  please sp  o you re  ive (only  rganisms  antitation  nl, more  ative (e	eport the  the pressis repo  (category than 50)  g. exact	sence/al rted) gories, e OCFU/ml amount	cation?  osence of the control of th	(multiple of than
mALDI-T Biochem Other- p  * 28. How deanswers) Qualitation micro-or Semi-qu 50CFU/r Quantitation 29. How desceptibility	o you restive (e	eport the the pressis repo te (categorical than 50) g. exact erform n g for PJ	sence/al rted) gories, e OCFU/ml amount	cation?  osence of the control of th	(multiple of than
MALDI-T Biochem Other- p  * 28. How do answers) Qualitati micro-or Semi-qu 50CFU/r Quantita  * 29. How do Susceptibility Otick	o you restive (e	eport the the pressis repo te (categorical than 50) g. exact erform n g for PJ	sence/al rted) gories, e OCFU/ml amount	cation?  osence of the control of th	(multiple of than

Other- plea	onaut ase specify:		
- Carron pro-	,		
<ul><li>30. What sta Testing is used</li></ul>			
○ EUCAST			
○ CLSI			
with CLSI)		e.g. EUCAST fill	ed in
Other- plea	ase specify:		
* 31. Are the fin your lab?	ollowing susc	eptibility tests	performed
	Yes (routinely)	Yes, (as research)	No
Minimal biofilm-			
eradication concentration (MBEC)	0	0	0
Minimal			
biofilm inhibitory concentration (MBIC)	0	0	0
culture  Treatment recommen Participatio	with regards ltiple answers reporting by particle by phodations on in multidisc	to prosthetic job one regarding a iplinary meeting	joint s of a intibiotic ags on
	•	tic joint infections.	
Susceptibi		suits for Antillin	crobiais
ular diagnosti	c methods fo	r periprosthe	tic joint infectio
<ul> <li>33. Are there</li> <li>available in you</li> </ul>	ur lab (e.g. PC	R) that are ro	utinely used
for the diagnos			
for the diagnos	No		

	//