How to get your study published

The editor's view

Eskild Petersen, MD, FESCMID, FIDSA

Editor-in-Chief

IJID 2012 – 2022, IJID Regions,

Professor Emeritus of Infectious Diseases
Institute of Clinical Medicine
Aarhus University Hospital, Denmark

Chair, ESCMID Emerging Infections Task Force

Why publish ?

Publishing is communication with colleagues and the public

You must have something you want to say to colleagues or viewpoints that are important, you communicate something new

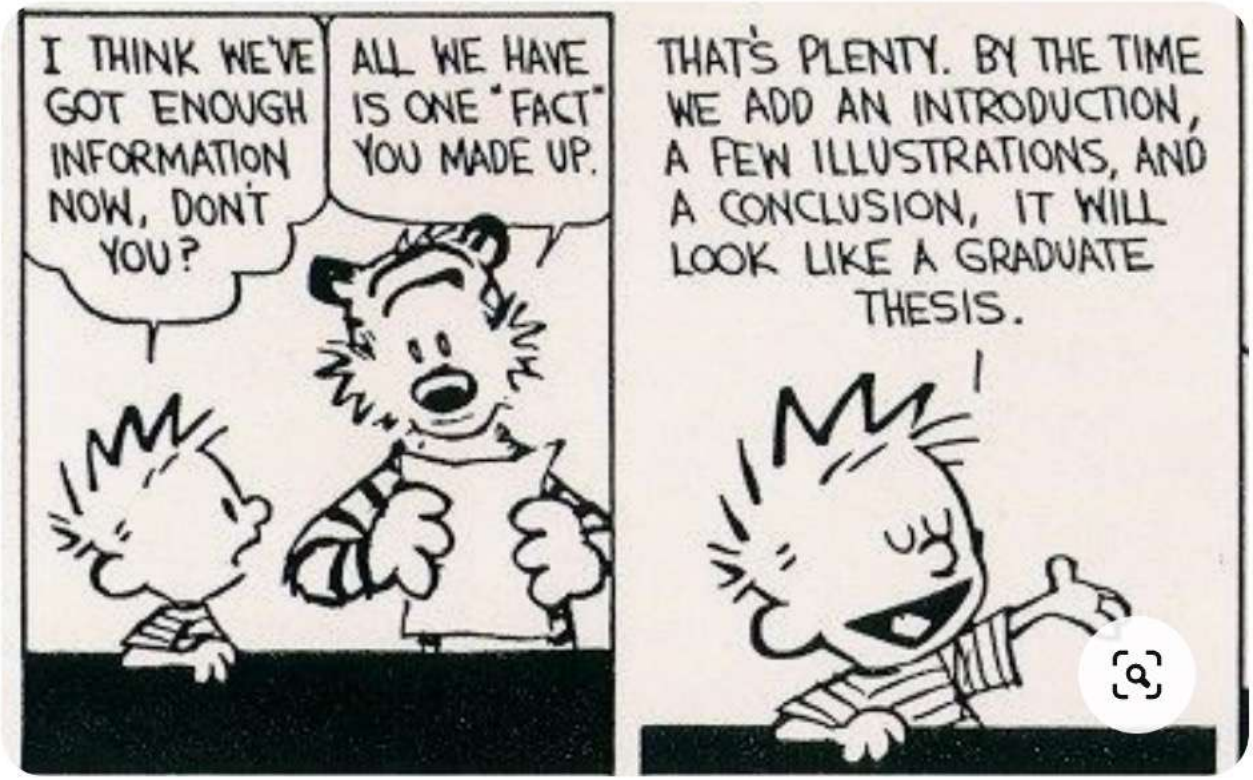
It supports your career

You learn from developing a manuscript

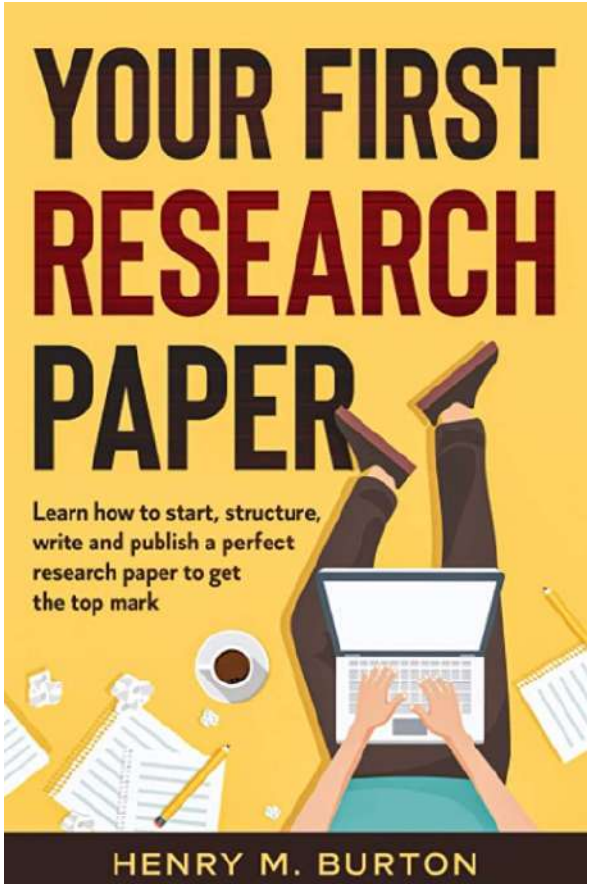
You expand your network

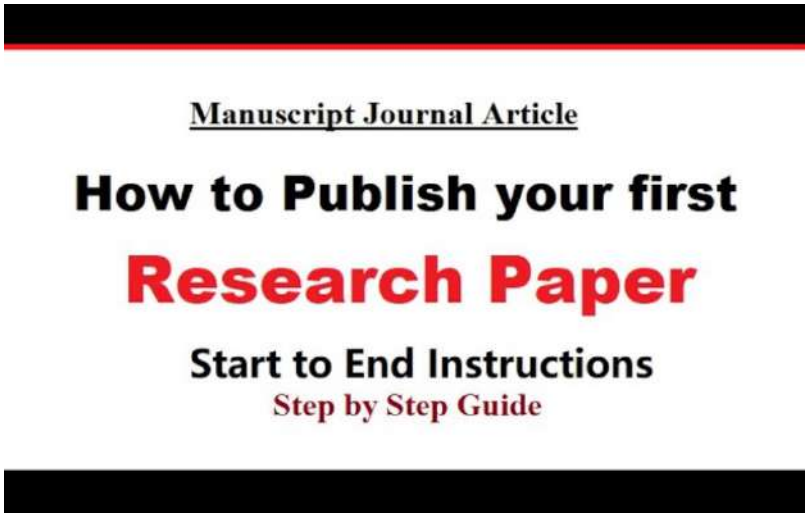
You become a better clinician

You become better to evaluate other's results and be sceptical



It is not that easy ☺





What Is a Preprint? 5 Step Guide to Successfully Publish Yours!

EA By Enago Academy

Aug 5, 2022 4 mins read Listen

Publishing is the last stage of a research project

I have some unique data others should know about and learn from

How do I get unique data ? I do studies !

What is a study ?

A study is a systematic collection of data that answer a hypothesis or a question

Scientific studies and quality assurance overlap to a certain extent

Where should I publish my results?

National or international journals ?

- **Depends on whether the results are interesting only within a country or have wider implications**

- **Impact Factor – important but more important to be in PubMed**

- **Open access: Your paper is freely available world wide**

  but you have to pay a publication fee

- **The senior author or corresponding author is responsible for finding the fee**

Already when you plan your study think about where you want to publish it

Can my study design answer the research question ?

Adequate sample size ?

Intervention ? Comparison ? Sample bias ?

Clear hypothesis ?

New methods ?

Are there similar studies with similar results? = confimatory at best

Search the litterature !

It is easy to publish good studies

Pitfalls

Find a good supervisor – senior colleague and check her/him in PubMed

Be sure that all colleagues who have been involved are invited to be co-authors

- **be generous**

Follow the Vancouver guidelines for co-authorship

DO NOT COPY TEXT ! Manuscripts are screened using iThenticate for plagiarism

Submit only to one journal at a time

The first author is usually the one who did the majority of the work

The last author is usually the supervisor

In the US, to be corresponding author is more important than to be last author

Examples

If you are a clinician, you first publication(s) will probably be case story or a case series.

Double Infection With *Leishmania tropica* and *L. major* in an HIV Patient Controlled With High Doses of Amphotericin B

Asma Al Balushi,[1] Faryal Khamis,[1] Corné H. W. Klaassen,[2] Jean-Pierre Gangneux,[3] Jaap J. van Hellemond,[2] and Eskild Petersen[1]

[1]Department of Infectious Diseases, The Royal Hospital, Muscat, Sultanate of Oman; [2]Department of Medical Microbiology and Infectious Diseases, Erasmus MC University Medical Center, Rotterdam, the Netherlands; [3]Centre Hospitalier Universitaire Pontchaillou, Rennes, France

Open Forum Infectious Diseases IDSA Infectious Diseases Society of America

Genetic analysis showed that the patient was simultaneously infected by 2 *Leishmania* species: *L. major* and *L. tropica*.

Collaborate with colleagues with other skills than you have. Clinicians have the Patients and the samples, the laboratory scientists have the techniques and Knowledge we clinicians lack.

Open Forum Infect Dis. 2018;5(12):ofy323

The first case of artemisinin treatment failure of *Plasmodium falciparum* imported to Oman from Tanzania

Amit Kumar Subudhi, PhD[1], Anne-Lise Bienvenu, PhD[2,3], Guillaume Bonnot, MSc[2], Reem Abu-Shamma, BSc[1], Faryal Khamis, MD[4], Hussain Ali Abdulhussain Al Lawati, PhD[5], Stephane Picot, PhD[2,6,†], Eskild Petersen, MD[4,7,8,†], Arnab Pain, PhD[1,9,†,*]

[1]Pathogen Genomics Group, Bioscience Program, BESE Division, King Abdullah University of Science and Technology (KAUST), Thuwal, 23955-6900, Kingdom of Saudi Arabia

[2]Univ Lyon, Malaria Research Unit, UMR 5246 CNRS-INSA-CPE-University Lyon1, 69100 Villeurbanne, France

[3]Service Pharmacie, Groupement hospitalier Nord, Hospices Civils de Lyon, 69004 Lyon, France

[4]Department of Infectious Diseases, The Royal Hospital, Muscat, Oman

[5]Department of Haematology, The Royal Hospital, Muscat, Oman

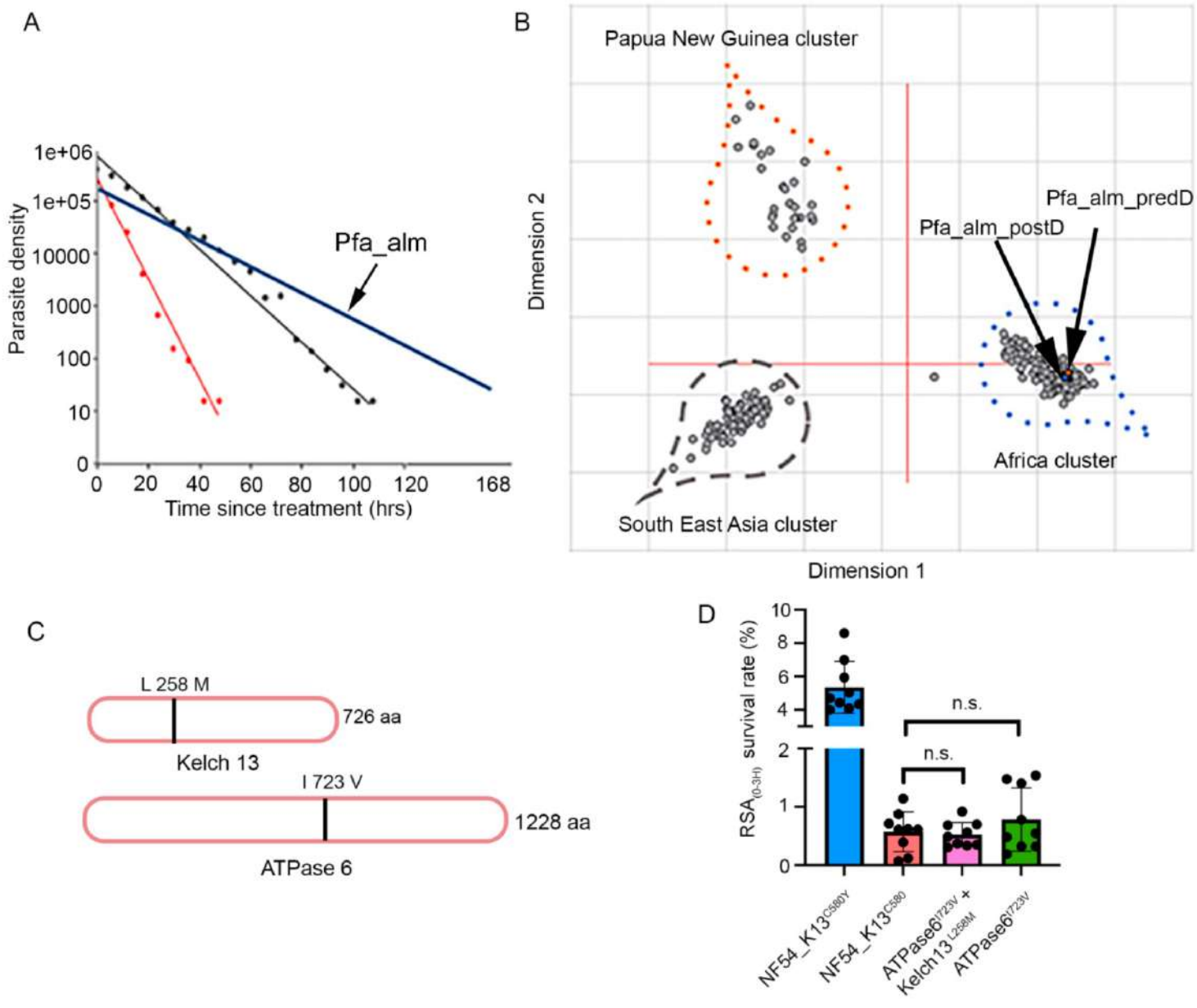
[6]Institute of Parasitology and Medical Mycology, Hôpital de la Croix-Rousse, Hospices Civils de Lyon, 69004 Lyon, France.

[7]Institute for Clinical Medicine, University of Aarhus, Aarhus, Denmark

[8]Emerging Infections Task Force, European Society for Clinical Microbiology and Infectious Diseases (ESCMID), Basel, Switzerland

[9]International Institure for Zoonosis Control, Global Institution for Collaborative Research and Education (GI-CoRE), Hokkaido University, Sapporo 001-0020, Japan.

J. Travel Med. August 2022


A
Parasite density
1e+06
1e+05
10000
1000
100
10
0
0 20 40 60 80 100 120 168
Time since treatment (hrs)
Pfa_alm
B
Papua New Guinea cluster
Pfa_alm_predD
Pfa_alm_postD
Africa cluster
South East Asia cluster
Dimension 2
Dimension 1
C
L 258 M
726 aa
Kelch 13
I 723 V
1228 aa
ATPase 6
D
RSA(0-3H) survival rate (%)
10
8
6
4
2
1
0
n.s.
n.s.
NF54_K13C580Y
NF54_K13C580
ATPase6I723V + Kelch13 L258M
ATPase6I723V

Clinical studies

> Scand Cardiovasc J. 2011 Jun;45(3):133-8. doi: 10.3109/14017431.2011.563863.
Epub 2011 Mar 31.

Failure of clinical features of low probability endocarditis. The early echo remains essential

Jane B Knudsen [1], Kurt Fuursted, Eskild Petersen, Per Wierup, Henning Mølgaard, Steen H Poulsen, Henrik Egeblad

Design: Prospective analysis of the relationship between predefined clinical IE features and findings on TOE in 708 IE suspected patients.

Results: The previously reported criteria were rejected as 1/10 of our confirmed IE patients fulfilled criteria for predicting absence of IE. However, our study generated another model of low probability of IE: This disease was absent in 99.4% of patients with negative blood cultures and absence of vascular phenomena and predisposing cardiac conditions. Such patients accounted for 25% of our population of patients suspected of IE.

Collaboration between cardiologist and ID specialists

PhD project for the first author

Moxifloxacin Pharmacokinetic Profile and Efficacy Evaluation in Empiric Treatment of Community-Acquired Pneumonia

Kristina Öbrink-Hansen,[a] Tore Forsingdal Hardlei,[b] Birgitte Brock,[b] Søren Jensen-Fangel,[a] Marianne Kragh Thomsen,[c] Eskild Petersen,[a,c] Mads Kreilgaard[d]

Department of Infectious Diseases, Aarhus University Hospital, Skejby, Denmark[a]; Department of Clinical Biochemistry, Aarhus University Hospital, Skejby, Denmark[b]; Department of Clinical Microbiology, Aarhus University Hospital, Skejby, Denmark[c]; Department of Drug Design and Pharmacology, University of Copenhagen, Denmark[d]

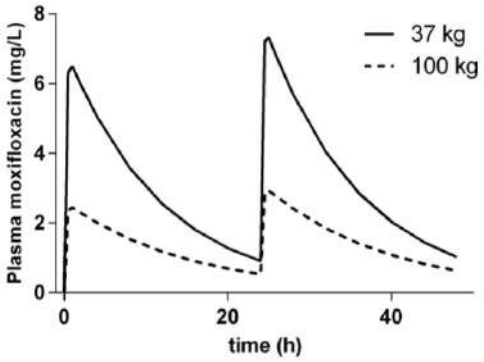
18 patients, collaboration with pharmacologists from the beginning

"To our knowledge, this is the first PK population model published for moxifloxacin treatment of patients with CAP".

$$t_{max} = \ln \frac{k_a/k}{(k_a - k)}$$

$$C_{max} = \frac{\text{Dose} \times F \times k_a}{V \times (k_a - k)} \left(e^{-k \times t_{max}} - e^{-k_a \times t_{max}} + e^{-k \times (t_{max}+24)} - e^{-k_a \times (t_{max}+24)} \right) / 0.6$$

$$f\text{AUC} = \text{Dose} \times \text{CL}/F$$



Antimicrobial Agents and Chemotherapy 2015;59:2398

Observational Study > Basic Clin Pharmacol Toxicol. 2017 Feb;120(2):179-186.
doi: 10.1111/bcpt.12661. Epub 2016 Sep 16.

Penicillin G Treatment in Infective Endocarditis Patients – Does Standard Dosing Result in Therapeutic Plasma Concentrations?

Kristina Öbrink-Hansen [1], Henrik Wiggers [2], Bo Martin Bibby [3], Tore Forsingdal Hardlei [4], Kaare Jensen [2], Marianne Kragh Thomsen [5], Birgitte Brock [4], Eskild Petersen [1]

Aarhus University Hospital, Aarhus, Denmark.

The aim was to evaluate penicillin G dosing 3 g every 6 hr (q6 h) compared to continuos infusion

Of the 46 patients, 96% had [p-penicillin] that resulted in 50% T > MIC, while 71% had [p-penicillin] resulting in 100% Time > MIC.

The majority of patients NOT achieving the 100% Time > MIC target were infected with enterococci.

Continuous infusion

Journal of Cystic Fibrosis 15 (2016) e13 – e14

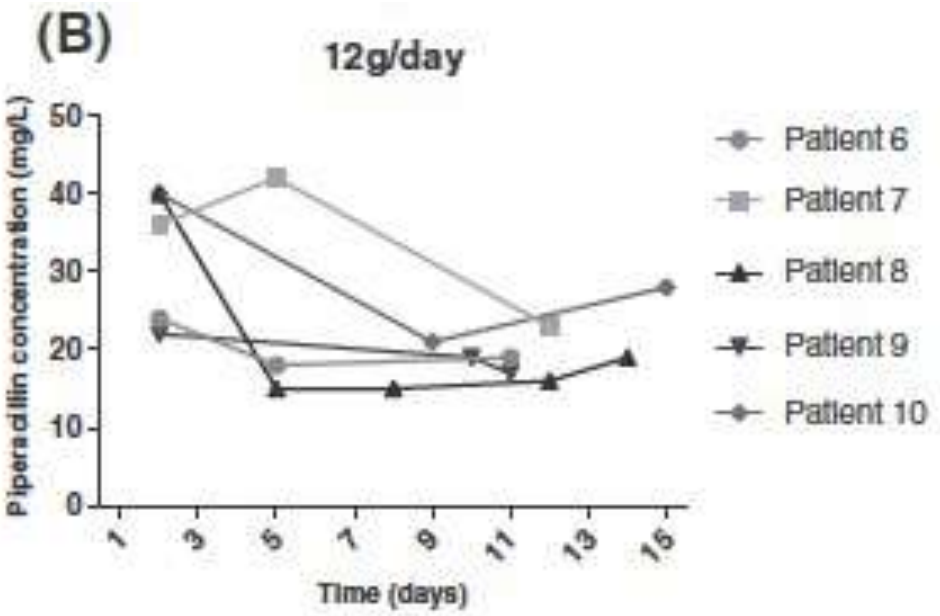
www.elsevier

Letter to the Editor

Piperacillin/tazobactam continuous infusion at 12G/1.5G per day in CF patients results in target plasma-concentrations☆

Kristina Öbrink-Hansen et al.

- **Continuous infusion in disposable pumps administrating 240 ml over 24 hours**



A Modified Chronic Infection Model for Testing Treatment of *Staphylococcus aureus* Biofilms on Implants

Nis Pedersen Jørgensen[1,2], Rikke Meyer[3], Frederik Dagnæs-Hansen[4], Kurt Fuursted[5], Eskild Petersen[1]*

1 Department of Infectious Diseases, Institute of Clinical Medicine, Aarhus University Hospital, Aarhus, Denmark, **2** Department of Clinical Microbiology, Aarhus University Hospital, Aarhus, Denmark, **3** Interdisciplinary Nanoscience Center (iNANO), Aarhus University, Aarhus, Denmark, **4** Department of Biomedicine, Faculty of Health Sciences Aarhus University, Aarhus, Denmark, **5** Microbiology and Infection Control, Statens Serum Institut, Copenhagen, Denmark

PLoS One. 2014 Oct 3;9(10):e103688

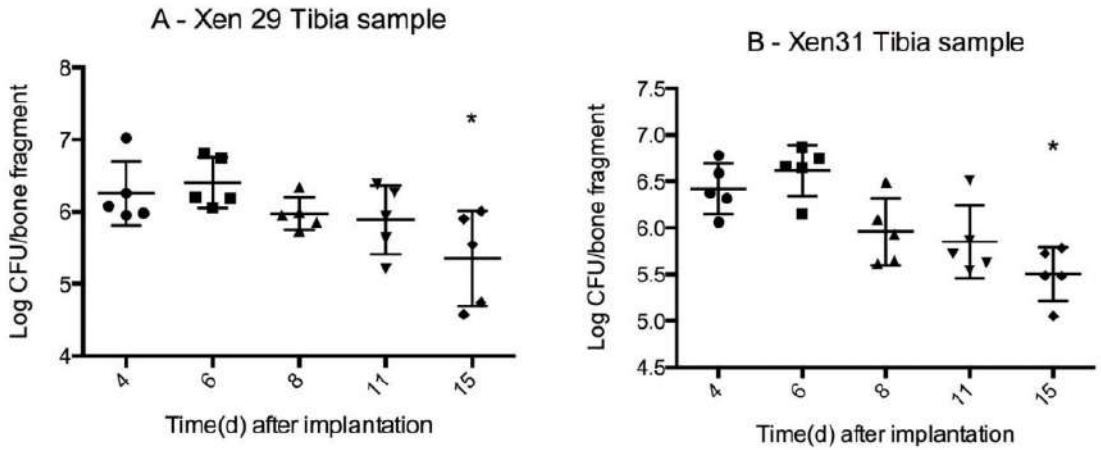


Figure 4. Bacterial load in infected tibia mean CFU±SD (logarithmic scale). Bacterial load from two different *S. aureus* strains, Xen 29(MSSA) and Xen 31(MRSA). The infection is a localized OM adjacent to the stainless steel pin implanted through the metaphysis of the bone. Bone fragment weight 0.08 g±0.01 g. Bacterial load by day 15 are significantly lower (marked with*) than initial load by day 4 for both X29 ($P=0.04$) and X31 ($P=0.001$). From day 8–15, the infection remains stable (no difference in mean) for both strains (one way ANOVA, $P=0.14$ for X29 and $P=0.06$ for X31). $n=5$ for each group.

In conclusion, we have modified a murine model in investigating implant-associated osteomyelitis with a high infection rate (95%).

Vancomycin was unable to eradicate the biofilm infection, despite 14 days treatment.

Continuous versus Short-Term Infusion of Cefuroxime: Assessment of Concept Based on Plasma, Subcutaneous Tissue, and Bone Pharmacokinetics in an Animal Model

Mikkel Tøttrup,[a,b] Bo M. Bibby,[c] Tore F. Hardlei,[d] Mats Bue,[a,b] Sigrid Kerrn-Jespersen,[e] Kurt Fuursted,[f] Kjeld Søballe,[b,g] Hanne Birke-Sørensen[b]

Department of Orthopaedic Surgery, Horsens Regional Hospital, Horsens, Denmark[a]; Orthopaedic Research Unit, Aarhus University Hospital, Aarhus, Denmark[b]; Department of Biostatistics, Aarhus University, Aarhus, Denmark[c]; Department of Clinical Biochemistry, Aarhus University Hospital, Aarhus, Denmark[d]; Department of Clinical Medicine, Aarhus University, Aarhus, Denmark[e]; Statens Serum Institut, Copenhagen, Denmark[f]; Department of Orthopaedic Surgery, Aarhus University Hospital, Aarhus, Denmark[g]

TABLE 2 Key CI pharmacokinetic parameters for free plasma, subcutaneous tissue, cancellous bone, and cortical bone

Pharmacokinetic parameter[a]	Mean (95% confidence interval) values in:			
	Free plasma	SCT[b]	Cancellous bone	Cortical bone
AUC_{0-last} (min · μg/ml)	3,437 (2,586–4,578)	1,809 (1,240–2,636)	1,296 (859–1,759)	919 (471–1,545)
C_{max} (μg/ml)	51.4 (28.0–94.2)	12.7 (9.0–17.8)	6.1 (3.8–8.3)	2.5 (0.9–5.8)
T_{max} (min)	2.7 (2.4–3.1)	16.6 (14.3–19.4)	39.9 (33.2–48.9)	52.1 (31.4–95.8)
$fAUC_{tissue}/fAUC_{plasma}$		0.53 (0.33–0.84)	0.38 (0.23–0.57)	0.27 (0.13–0.48)

[a] AUC_{0-last}, area under the concentration-time curve from 0 to the last measured value; C_{max}, peak drug concentration; T_{max}, time to C_{max}; $fAUC_{tissue}/fAUC_{plasma}$, tissue penetration expressed as the ratio of free AUC tissue to free AUC plasma.
[b] SCT, subcutaneous tissue.

This animal study provide important data on antibiotic penetration into different tissue compartments

Antimicrob Agents Chemother 2015;59:67–75

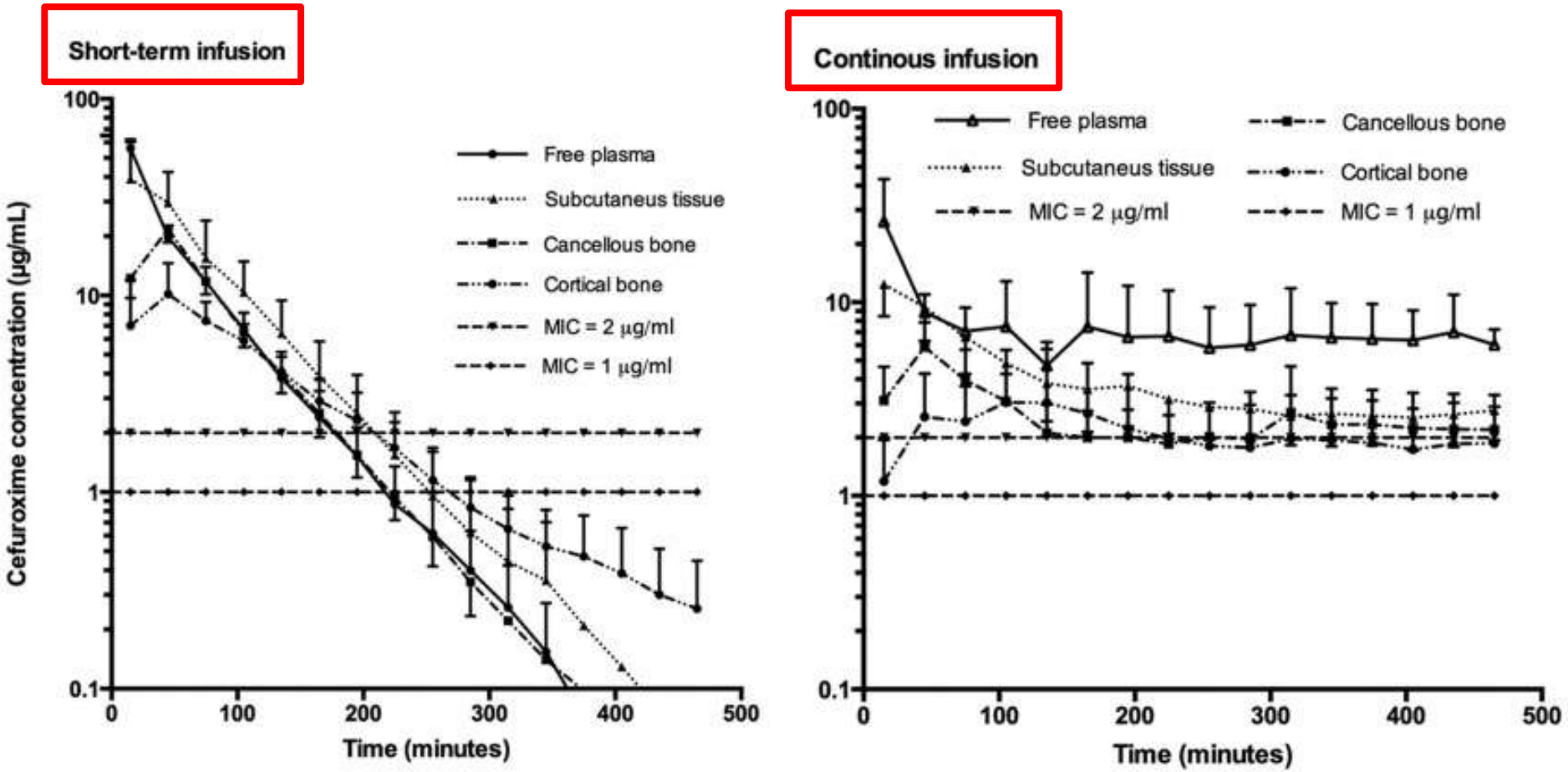


FIG 3 Mean concentration-time profiles for short-term and continuous infusion of cefuroxime for free plasma, SCT, cancellous bone, and cortical bone. The error bars represent standard deviations.

Tøttrup M et al. Antimicrob Agents Chemother. 2015;59(1):67-75.

Animal models

> Eur J Nucl Med Mol Imaging. 2017 Mar;44(3):449-458. doi: 10.1007/s00259-016-3555-6.
Epub 2016 Oct 26.

Cholinergic PET imaging in infections and inflammation using ^{11}C-donepezil and ^{18}F-FEOBV

Nis Pedersen Jørgensen [1], Aage K O Alstrup [2], Frank V Mortensen [3], Karoline Knudsen [2], Steen Jakobsen [2], Line Bille Madsen [4], Dirk Bender [2], Peter Breining [5], Mikkel Steen Petersen [6], Mariane Høgsberg Schleimann [1], Frederik Dagnæs-Hansen [7], Lars C Gormsen [2], Per Borghammer [8]

Methods: We performed positron emission tomography (PET) using the glucose analogue 18F-FDG, and 11C-donepezil and 18F-FEOBV, markers of acetylcholinesterase and the vesicular acetylcholine transporter, respectively. Mice were inoculated subcutaneously with Staphylococcus aureus, and PET scanned at 24, 72, 120, and 144 h post-inoculation. Four pigs with post-operative abscesses were also imaged. Finally, we present initial data from human patients with infections, inflammation, and renal and lung cancer.

Collaboration between ID, PET center and animal facility

Laboratory work

› Acta Biomater. 2018 Aug;76:46-55. doi: 10.1016/j.actbio.2018.07.002. Epub 2018 Jul 4.

Ultra-dense polymer brush coating reduces Staphylococcus epidermidis biofilms on medical implants and improves antibiotic treatment outcome

Sandra M Skovdal [1], Nis Pedersen Jørgensen [2], Eskild Petersen [3], Søren Jensen-Fangel [4], Ryosuke Ogaki [5], Guanghong Zeng [6], Mikkel Illemann Johansen [7], Mikala Wang [8], Holger Rohde [9], Rikke L Meyer [10]

Require funding for salary and good supervision

<u>Translational research</u>: Cross fertilisation between the clinicians and the basic scientists

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2 Department of Infectious Diseases, Aarhus University Hospital, Aarhus 8200, Denmark. Electronic address: nisjoerg@rm.dk.
3 Department of Clinical Medicine, Faculty of Health, Aarhus University, Aarhus 8000, Denmark; Department of Infectious Diseases, Aarhus University Hospital, Aarhus 8200, Denmark; Department of Clinical Microbiology, Aarhus University Hospital, Aarhus 8200, Denmark. Electronic address: eskildp@dadlnet.dk.
4 Department of Infectious Diseases, Aarhus University Hospital, Aarhus 8200, Denmark. Electronic address: soejense@rm.dk.
5 Interdisciplinary Nanoscience Center (iNANO), Faculty of Science and Technology, Aarhus University, Aarhus 8000, Denmark. Electronic address: ryosuke.ogaki@nanoporetech.com.
6 Interdisciplinary Nanoscience Center (iNANO), Faculty of Science and Technology, Aarhus University, Aarhus 8000, Denmark. Electronic address: gz@dfm.dk.
7 Department of Infectious Diseases, Aarhus University Hospital, Aarhus 8200, Denmark; Interdisciplinary Nanoscience Center (iNANO), Faculty of Science and Technology, Aarhus University, Aarhus 8000, Denmark.
8 Department of Clinical Microbiology, Aarhus University Hospital, Aarhus 8200, Denmark. Electronic address: miwa@clin.au.dk.
9 Department of Medical Microbiology, Virology and Hygiene, Universitätsklinikum Hamburg-Eppendorf, Hamburg, Germany. Electronic address: rohde@uke.de.
10 Interdisciplinary Nanoscience Center (iNANO), Faculty of Science and Technology, Aarhus University, Aarhus 8000, Denmark; Department of Bioscience, Faculty of Science and Technology, Aarhus University, Aarhus 8000, Denmark. Electronic address: rikke.meyer@inano.au.dk.

Inhaled nebulized glatiramer acetate against Gram-negative bacteria is not associated with adverse pulmonary reactions in healthy, young adult female pigs

Sandra M. Skovdal[1,2,3], Stig Hill Christiansen[4¤a], Karen Singers Johansen[5], Ole Viborg[6], Niels Henrik Bruun[7], Søren Jensen-Fangel[2], Ida Elisabeth Holm[8], Thomas Vorup-Jensen[4]*, Eskild Petersen[1,2¤b]

Table 1. GA inhalation effect on bronchoconstriction measured as peak pressure, P_{peak}.

Group	Time	Mean (95% CI)	Effect (95% CI)
Mannitol	Pre	19.41 [18.18; 20.65]	
	Post	19.94 [18.78; 21.10]	0.523 [[0.050; 0.997]
GA *s.c.*	Pre	20.40 [19.14; 21.65]	
	Post	21.18 [20.02; 22.34]	0.783 [0.263; 1.303]
GA inhaled	Pre	19.32 [18.47; 20.18]	
	Post	20.53 [19.71; 21.35]	1.213 [0.942; 1.483]

Estimated means and effect with 95% CI of P_{peak} in cm H_2O pre and post inhalation for pigs receiving mannitol inhalation, GA s.c. or GA inhalation. All changes are within the pressure monitoring accuracy (± 2 cm H_2O), and thus not biologically different.

Skovdal SM et al. PLoS ONE 2019;14(10): e0223647.

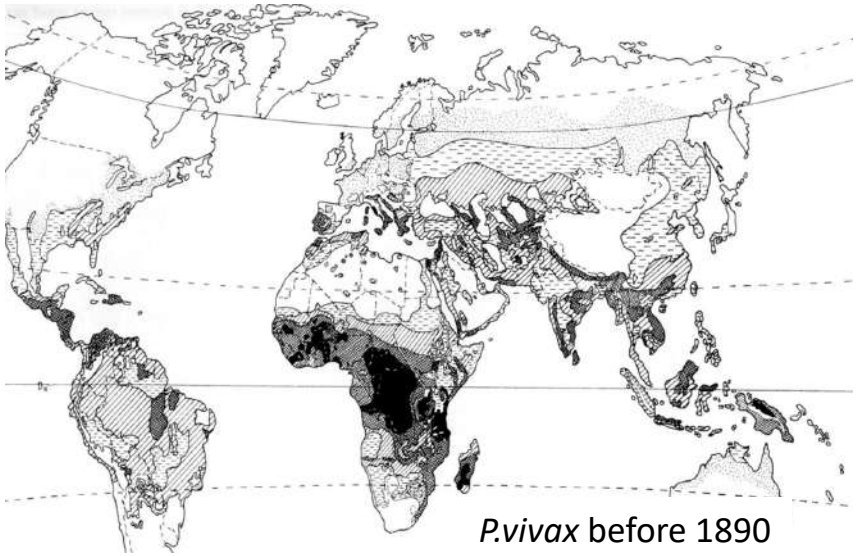
The Glatiramer team with one of the anaestesized pigs

Reviews

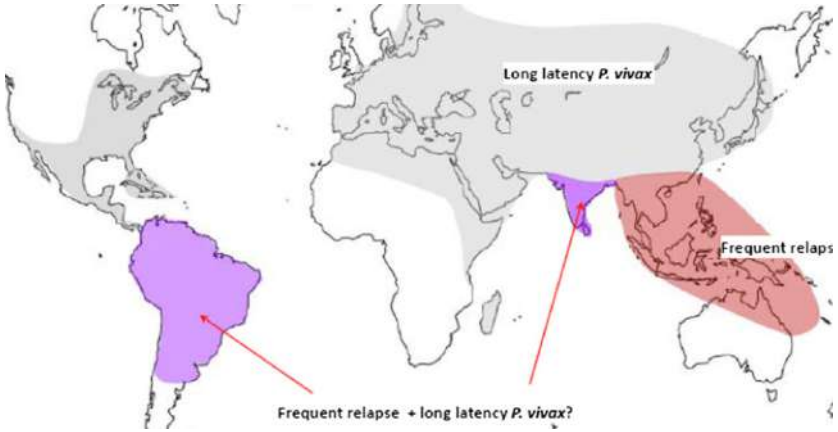
Plasmodium vivax malaria: A re-emerging threat for temperate climate zones?

Eskild Petersen [a,*], Carlo Severini [b], Stephane Picot [c,d]

Travel Medicine and Infectious Disease (2013) 11, 51–59



P.vivax before 1890



Good reviews provide new interpretation and insights from known data

Be sure similar reviews have not been published recently (3 to 4 years)

CLINICAL MICROBIOLOGY REVIEWS, July 2008, p. 466–472 Vol. 21, No. 3
0893-8512/08/$08.00+0 doi:10.1128/CMR.00059-07

Malaria Chemoprophylaxis: Strategies for Risk Groups

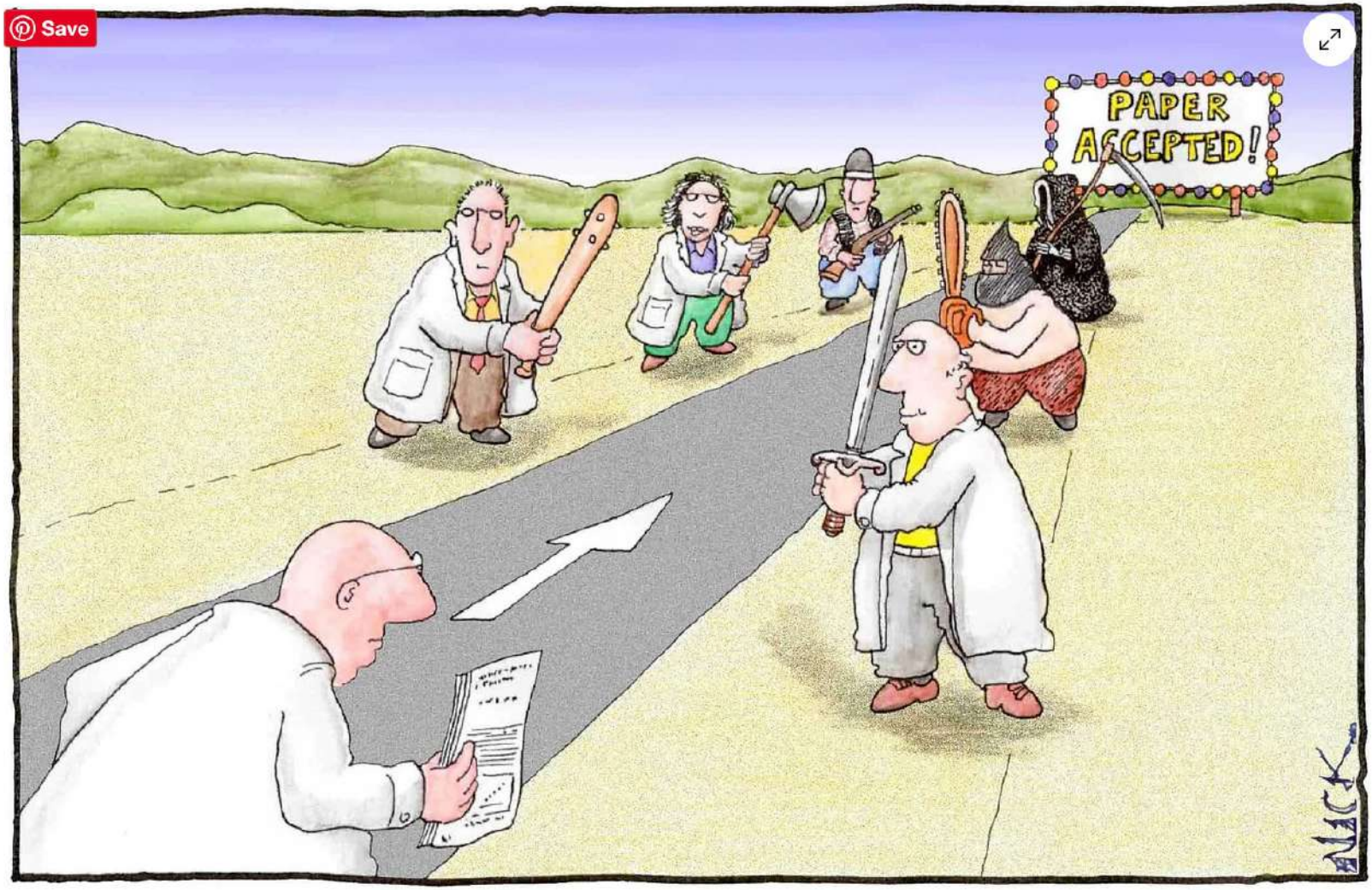
Patricia Schlagenhauf[1] and Eskild Petersen[2]*

University of Zurich Centre for Travel Medicine, WHO Collaborating Centre for Travellers' Health, Institute for Social and Preventive Medicine, University of Zürich, Zürich, Switzerland,[1] and Department of Infectious Diseases, Aarhus University Hospital—Skejby, Aarhus, Denmark[2]

Before you write a review, ask the editor if the topic is of interest

If not find another journal

The peer review process



Manuscripts are screened by the editor before being send to external reviewers

This usually not standard procedure . . . . . .

What is the flow of papers in the Intl. J. Infect. Dis ?

50% are rejected outright, 90% of case reports

50% are send to review

25% are accepted, often after one or two revisions

….. during COVID 10% to 15%

If you are unsure whether the paper is interesting for the

journal - ask the editor !

IJID Regions **Launched August 2021**

that focus on studies that are mainly of regional and national interest

Conclusions

- **Interesting projects often develops when different specialities work together**
- **Clinicians need support from pre-clinical science and pre-clinical science**

  needs data, patients and samples from clinicians

  so called “translational research”
- **Collaborate, collaborate, collaborate**
- **With authorships – be generous**

Lost ? Seek advice . . . . .

Aïr, Niger