

Diagram D1

Example of the site-specific interventional algorithm, site 'Aarhus'

The Procalcitonin And Survival Study (PASS) Intervention Algorithm, Site: Aarhus

IMPORTANT: All patients shall (at least) receive antimicrobial therapy covering "standard-of-care", i.e. if any existing guidelines or evidence for antimicrobial treatment indicate/ contra-indicate surgical and/or antibiotic treatment, then the patient should be treated according to this. Indicated treatment should never be left out because of a possibly low procalcitonin (PCT).

All (except for the above standing situations) patients in the "PCT intervention" group must have treatment according to the present guidelines, including interventions when procalcitonin is $\geq 1,0$ ng/ml and "Alert"^a.

Patients are categorized daily according to the PASS intervention categories, on the basis on the present and the previous PCT measurement (displayed as "Alert" or "Non-Alert" in the website). In correspondence with every category, a PASS-intervention is displayed below. The treatment is, adjusted according to new and relevant microbiology that "explains" the clinical picture

CATEGORY 1	First PCT > 1,0 ng/ml, patient has not received antibiotics (≥ 1 DDD ^b within 72 h)
CATEGORY 2	A) First PCT $\geq 1,0$ ng/ml, patient has received antibiotics (\geq DDD ^b within 72 h) or B) PCT "Alert" for 1 day after CAT 1, CAT 4 or CAT 5 has been started or C) PCT "Alert"*** from "start-sample" till next morning
CATEGORY 3	A) First PCT $\geq 1,0$ ng/ml, patient has received antibiotics (\geq DDD ^b within 72 h) and clinical suspicion of fungal infection or catheter related infection. or B) PCT "Alert" for 1 day after CAT 2 has been started
CATEGORY 4	A) Start PCT < 1,0 ng/ml or B) "Non-Alert" PCT, but $\geq 1,0$ ng/ml. or C) PCT < 1,0 for 1-2 days
CATEGORY 5	PCT < 1,0 ng/ml for 3 or more days.

Action Category	Diagnostics	Surgery	Antimicrobials ^c
CATEGORY 1	<ul style="list-style-type: none"> Blood culture Tracheal secretion Urine culture Culture from susp. source Diagnostic imaging of susp. source 	According to diagnostic imaging and clinical judgment	<ol style="list-style-type: none"> Cefuroxim 1500 mg x 3 i.v. or Ampicillin 1g x 4 / 2 g x 3 i.v. Ciprofloxacin 400 mg x 2 i.v. Consider: Metronidazol 500 mg x 2 i.v.
CATEGORY 2	<ul style="list-style-type: none"> Blood culture Tracheal secretion Urine culture Culture from susp. source Diagnostic imaging of susp. source 	According to diagnostic imaging and clinical judgment	<ol style="list-style-type: none"> Pip/Tazo^d 4gx3 iv or Meropenem 1gx3 iv Ciprofloxacin 400 mg x 2 i.v. Metronidazol 500 mg x 2 i.v. Consider fungal infection: Fluconazole i.v. and cath. inf: Vancomycin, dosage acc.to. Se-Vanco^e
CATEGORY 3	<ul style="list-style-type: none"> Blood culture Tracheal secretion Urine culture Culture from susp. source Diagnostic imaging of susp. source Renewing oldest diagnostic imaging of susp. source 	According to diagnostic imaging and clinical judgment	<ol style="list-style-type: none"> Pip/Tazo^d 4gx3 iv or Meropenem 1gx3 iv Ciprofloxacin 400 mg x 2 i.v. Metronidazol 500 mg x 2 i.v. Fluconazol 400 mg x 2 i.v. Vancomycin, dosage acc.to. Se-Vanco^e
CATEGORY 4	Nothing further	Standard-of-care approach	Continue present treatment
CATEGORY 5	Nothing further	Standard-of-care approach	Re-consider the indication for antibiotics (standard-of-care principle)

^a 'Alert PCT' is defined as PCT-day1 \geq PCT day 0 x 0.9. So a decrease in PCT from 11,2 ng/ml to 10,5 ng/ml is an "irrelevant decrease" and is defined as an "Alert" PCT. ^b DDD = Defined Daily Dosages). N.B.: The mentioned dosages are examples. Dosing regimen and frequency is prescribed according to the department guidelines (according to weight, kidney function, haemodialysis, Continuous dialysis etc.). ^c Antimicrobial spectrum covered can be broader than suggested (discretion of investigator). Administration of antimicrobials with a narrower spectrum on Alert-PCT days, should only take place when any antimicrobial treatment covering the suggested spectrum is contra-indicated and such a therapy should always be discussed and accepted by the coordinating centre. ^d Pip/Tazo: piperacillin/tazobactam. ^e Se-Vanco: serum-vancomycin measurements