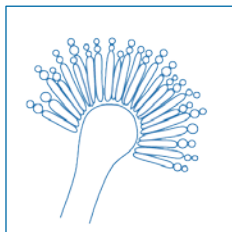


EQUAL Aspergillosis Score 2018: An ECMM Score Derived From Current Guidelines to Measure QUALITY of Clinical Invasive Pulmonary Aspergillosis Management

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Background

The EQUAL Aspergillus Score weighs and aggregates factors for ideal management of invasive pulmonary aspergillosis. EQUAL Scores reflect the strongest recommendations from current guidelines. The Score Cards are a quick reference to measure guideline adherence and to support antifungal stewardship.

| Maximum Score | | If positive culture | If refractory disease | If positive culture and refractory disease |
|---------------|----|---------------------|-----------------------|--|
| Diagnosis | 10 | 12 | 13 | 15 |
| Treatment | | | 5 | |
| Follow-up | | | 7 | |
| Total | 22 | 24 | 25 | 27 |

References

1. Patterson et al. *Clin Infect Dis* 2016; 2. Liss et al. *Mycoses* 2015; 3. Vehreschild et al. *Eur Radiol* 2017; 4. Ullmann et al. *Clin Microbiol Infect* 2018.



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EQUAL Aspergillosis Score 2018

Diagnosis

Neutropenia >10d or alloHSCT → mould active prophylaxis or GM screening 2-3x/week

3

72-96h of persistent fever → CT scan

3

Lung infiltrate → BAL

- Galactomannan
- Direct microscopy incl. fluorescent dyes: Calcofluor white, Uvitex 2B, or Blomophor
- Culture
- Fungal PCR (pan, Aspergillus, Mucorales)

1

1

1

1

Aspergillus grows in culture

- Identification to species level
- Susceptibility testing

1

1

Refractory cases → histology

- Silver stain
- PAS
- Visible hyphae → molecular diagnostics

1

1

1

Treatment

1st-line treatment:

- Isavuconazole or voriconazole or – after prior mould prophylaxis – liposomal amphotericin B or caspofungin
- Voriconazole without TDM (target trough range 1-5.5mg/L)

5

-1

Follow-up

- CT scan on day 7
- CT scan on day 14
- CT scan on day 21 or 28

2

3

2

EQUAL Candida score^{*}

measure QUALity of Clinical Candidemia Management

EQUAL Candida score quantifies score as a surrogate marker of diagnostic and therapeutic management quality when treatment is intended to cure. EQUAL Candida score weighs and aggregates factors recommended for the ideal management of candidemia and provides a tool for antifungal stewardship as well as for measuring European Society for Clinical Microbiology and Infectious Diseases (ESMID) and Infectious Diseases Society of America (IDSA)' guidelines adherence.

| Quality indicator | ESCMID / IDSA guidance | | Score | |
|---|----------------------------|-------------------|-------------------|----------------------|
| | Strength of recommendation | Level of evidence | Patients with CVC | Patients without CVC |
| Initial blood culture (40 mL) | Essential | n/a | 3 | 3 |
| Species identification | Essential | n/a | 3 | 3 |
| Susceptibility testing | Recommended | I/III | 2 | 2 |
| Echocardiography | B | II | 1 | 1 |
| Ophthalmoscopy | B | II/III | 1 | 1 |
| Echinocandin treatment | A | I | 3 | 3 |
| Step down to fluconazole depending on susceptibility result | B | II | 2 | 2 |
| Treatment for 14 days after first negative follow-up culture | A/B | II | 2 | 2 |
| CVC removal | A | II | | n/a |
| <ul style="list-style-type: none"> • 24 hours from diagnosis | | | 3 | |
| <ul style="list-style-type: none"> • >24 < 72 hours from diagnosis | | | 2 | |
| Follow-up blood culture (at least one per day until negative) | B | III | 2 | 2 |
| Maximum score | | | 22 | 19 |

A, Strong recommendation; B, Moderate recommendation; I, Evidence from at least 1 properly designed randomised controlled trial; II, Evidence from at least 1 well designed clinical trial, without randomisation, from cohort or case-control analytic studies, from multiple time series, or from dramatic results of uncontrolled experiments; III, Evidence from opinions of respected authorities, based on clinical experience, descriptive case studies or reports of expert committees.

* Mellingshoff et al. Mycoses 2018, CVC – central venous catheters

Candida Score**

bedside scoring system for early antifungal treatment

Candida score is a bedside scoring system for early antifungal treatment critically ill patients. Assessment with the Candida score should be performed at the time of ICU admission and any time candidiasis is suspected.

| Variable | Coefficient | Calculation |
|-------------------------------------|-------------|-------------|
| Multifocal Candida spp.colonization | 1,112 | |
| Surgery on ICU admission | 0,997 | |
| Severe sepsis | 2,038 | |
| Total parenteral nutrition | 0,908 | |
| Total score | | |

Candida Score >2,5 is a selection of patients who will benefit from early antifungal treatment.

Patients with score > 2.5 are 7.75 times as likely to have proven infection.

**A bedside scoring system ("Candida score") for early antifungal treatment in nonneutropenic critically ill patients with Candida colonization. Cristóbal León et al. Crit Care Med 2006 Vol. 34, No. 3. P. 730-737.

