The fact that early antimicrobial therapy is crucial for a successful disease outcome is known since the introduction of antibiotics in clinical medicine. An universal goal is to start appropriate treatment as soon as possible. It is logical that these facts are also valid in patients with invasive fungal infections (IFI). The problem is that IFI are often not easily recognisable and that we can only suspect them in patients at risk. While prospective, randomized studies are lacking, retrospective studies used different criteria of timing, although majority defined time as a period between culture sampling and start of appropriate treatment. Despite this, results uniformly showed that delay is associated with poorer outcome. In patients with candidemia, the importance of timing was assessed analyzing the time period between the time when positive blood cultures were drawn and start of AFT. Delay in treatment $\geq 12$ hours or $\geq 24$ hours increased hospital mortality 1.5 to 2.06 fold. Negative impact of delayed diagnosis and consequent AFT was shown in patients with candidemia: a 24-delay in blood culture positivity would almost double the risk of patients’ death. Studies in hematological patients with invasive aspergillosis or zygomycosis showed that delay of appropriate antifungal therapy (AFT) for more than 10 or 6 days after the appearance of first symptoms almost doubled the mortality rates. The negative impact of treatment delay on patients’ outcome urges physicians to start AFT empirically at high-risk patients with clinically suspected IFI (empirical therapy) or after positive new diagnostic tests associated with imaging findings (pre-emptive therapy, mostly for moulds infections). To avoid overtreatment with new, expensive antifungals, rapid diagnostic tests are necessary.