

EDITORIAL

It's not a gut feeling: don't listen to the bowels

J.I. van der Spoel

Department of Intensive Care Medicine, Amsterdam UMC location VUmc.

Correspondence

J.I. van der Spoel - ji.vanderspoel@vumc.nl

Keywords - ileus; auscultation; physical examination; enteral feeding

In my 1973 copy of *Hamilton Bailey's Demonstration of Physical Signs in Clinical Surgery* it is stated that auscultation of the abdomen is of 'overriding importance' in the investigation of ileus, be it obstructive or paralytic.^[1] The doctor should be seated on a chair on the right side of the patient's abdomen, command everybody in the vicinity to be quiet, apply the cup of the stethoscope firmly to the skin just below and to the right of the umbilicus, and listen – if necessary – for three full minutes. Only then can an ileus be diagnosed or the diagnosis can be discarded. In this issue of the *Netherlands Journal of Critical Care*, Van Bree reports a review of the literature on the utility of auscultation for bowel sounds in clinical decision-making.^[2] It may be questionable whether the auscultation in the reported studies was executed as meticulously as prescribed by Hamilton Bailey - in the intensive care unit it will seldom be quiet, even if the doctors these days still have the authority to command silence - but the conclusion is firm: auscultation of the abdomen is useless, should be abandoned, and – most importantly – should not contribute to the process of clinical decision-making.

So, if auscultation of the abdomen does not lead to an impact on clinical decision-making and should be abandoned, could this mean that auscultation in general should be abandoned? Indeed, auscultation of the heart by experienced general practitioners has a sensitivity of only 32% and 44% for diagnosing mild and significant valvular heart disease with specificities of 67% and 69%, respectively.^[3] Fifty-two patients admitted to the emergency room with symptoms of lower respiratory tract infection were evaluated by a general internist, a specialist in infectious diseases, and a pulmonologist. Without knowledge of the clinical histories, they performed a chest exam to determine whether the patients had pneumonia.^[4] As compared with the gold standard chest radiography, the sensitivity of clinical diagnosis ranged from 47 to 69%, and the specificity from 58 to 75%.

Now that we conclude that auscultation is, to say the least, not

a very useful part of physical examination, does this mean that performing a physical examination in general can be discarded? After all, it has low specificity and sensitivity, and for the intensivist ultrasound has become a reliable tool. Ultrasound performs much more accurately than physical examination on diagnosing pathological conditions of the lung (consolidation, pleural effusion, oedema), the heart (global dimensions and function, valve dysfunction, volume status) and the abdomen (gastric retention volume, ileus, intra-abdominal air and fluid). Probably, some medical specialists will have to continue doing direct hands-on examinations, e.g. the neurologist with reflex and sensitivity testing (although even pupillary size, symmetry, and reactivity nowadays can be tested automated by a pupilometer handled by a nurse), but for most specialists physical examination may not contribute to the diagnostic process. Even the surgeon will almost always rely on ultrasound and/or CT scanning of the abdomen instead of following the principles that Henry Hamilton Bailey described.^[5]

All in all, following this line of reasoning, physical examination can be abolished - or can it? Of course not. History taking and physical examination have been the cornerstone of medicine since Hippocrates, and even though the diagnostic accuracy of physical examination is low compared with modern methods, it still has many valuable aspects - also for ICU patients. But the focus should change from organ-specific diagnosis to more general results and findings. Physical examination results in an intimate interaction between patient and physician, hopefully increasing the patient's confidence and trust in the doctor's abilities and therefore his treatment. A physical examination gives the physician insight into the mental state of the patient (delirium, depression), pain and anxiety, and the patient's will to fight his disease and help in physical rehabilitation. Observing the patient reveals unwanted patient-ventilator interactions and could lead to relevant adjustments in the ventilator settings. Touching the patient provides relevant

knowledge on the circulation.^[6] Although auscultation of the heart is inferior to echocardiography, a (new) murmur could point to a new diagnosis such as endocarditis, an acute mitral valve insufficiency or a ventricular septal rupture. In contrast to ultrasound and CT/MRI, physical examination is always available, is cheap, and might reveal conditions that would otherwise go unnoticed, such as decubitus, an infected catheter, petechiae and so on.

In conclusion, I have gone from auscultation of bowel sounds in patients with an ileus to physical examination in general. Returning to the starting point that auscultation for bowel sounds is useless, we - and our nurses! - should stop doing it. This is in line with existing guidelines: enteral feeding should not be withheld in ICU patients with absent bowel sounds.^[7,8] Together with auscultation of bowel sounds, other rituals which hamper optimal enteral feeding, such as measuring gastric retention volume, are to be abolished as well.^[9] The authors are to be complemented with their research, and expanding on 'test everything, retain what is good' it is up to us not only to retain what is good, but to discard what is not good, to begin with rituals that hamper optimal feeding.

Disclosures

The author declares no conflict of interest. No funding or financial support was received.

References

1. Hamilton Bailey H. Hamilton Bailey's Demonstrations of Physical Signs in Clinical Surgery. Fifteenth ed. Bristol: John Wright & sons LTD; 1973;pp 309 and 319-20.
2. Van Bree SHW, Prins MMC, Juffermans N. Auscultation for bowel sounds in patients with ileus: an outdated practice in the ICU? *Neth J Crit Care*. 2018. 142-146
3. Gardezi SKM, Myerson SG, Chambers J, et al. Cardiac auscultation poorly predicts the presence of valvular heart disease in asymptomatic primary care patients. *Heart*. 2018;Published Online First: 24 May 2018. doi: 10.1136/heartjnl-2018-313082.
4. Metlay JP, Kapoor WN, Fine MJ. Does this patient have community-acquired pneumonia? Diagnosing pneumonia by history and physical examination. *JAMA*. 1997;278:1440-5.
5. Gans SL, Pols MA, Stoker J, Boermeester MA. Guideline for the diagnostic pathway in patients with acute abdominal pain. *Dig Surg*. 2015;32:23-31.
6. Lima A, Jansen TC, van Bommel J, Ince C, Bakker J. The prognostic value of the subjective assessment of peripheral perfusion in critically ill patients. *Crit Care Med*. 2009;37:934-8.
7. McClave SA, DiBaise JK, Mullin GE, Martindale RG. ACG Clinical Guideline: Nutrition Therapy in the Adult Hospitalized Patient. *Am J Gastroenterol*. 2016;111:315-34; quiz 35.
8. Reintam Blaser A, Starkopf J, Alhazzani W, et al. Early enteral nutrition in critically ill patients: ESICM clinical practice guidelines. *Intensive Care Med*. 2017;43:380-98.
9. Marshall AP, West SH. Enteral feeding in the critically ill: are nursing practices contributing to hypocaloric feeding? *Intensive Crit Care Nurs*. 2006;22:95-105.