Physical examination in a virtual world

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Lumps, bumps, aching backs, coughs and a swollen toe. A typical day in family medicine, each presentation accompanied by a history and physical examination. At least that is how it was - as if overnight, virtual care, using the telephone or video call, has redefined the role of physical examination in how we assess patients.

Sphygmomanometers and stethoscopes lie largely idle, replaced by images of rashes or watching remotely as a patient examines their knee joint with verbal guidance. In this article, we debate the role of the physical examination as family physicians increasingly engage in virtual care. Has the COVID-19 pandemic finally led to the demise of the physical examination[1] where hands on medicine will be replaced by an enhanced telemedicine? Or, does it afford an opportunity to fundamentally re-examine the role of physical examination, beyond diagnosis and prognosis; by providing insights of how physical examination connects physicians with their patients and affirms the doctor-patient relationship. In this article we review the traditional perception of physical examination and reflect on the role it has played in our practice as family doctors, as we anticipate the future of virtual care.

The rationale clinical examination[2]

Traditionally, physical examination has been inherent to becoming and being a doctor. Honing a crisp percussion note, demonstrating the graceful and well executed swing of a tendon hammer to elicit an ankle reflex or with added confidence determining that a 'testicular' lump is actually a benign epididymal cyst. Skilled diagnosticians astounded learners by interpreting bedside signs, often being elevated to cult-like status. Yet increasingly, the role of the physical examination in contemporary care is being questioned. Studies show wide variation in physicians' abilities to correctly conduct physical examinations, and interpret their findings.[3,4] For some, the answer is obvious - it's time to let go of our nostalgia, embrace the new normal, and integrate technological advances into routine patient care[5]. Has COVID-19 merely precipitated the inevitable?

But is there more to the act of physical examination than gaining relevant clinical information? Much of the discussion around the utility of the physical examination is framed in empirical science and exactitude. This perspective views physical examination skills as more of a technical act, easily replaced by more precise technologies.[6] Yet the origin of the word technical emphasizes creative skills, techne as artwork. Might the skilled deployment of physical examination skills express the art of medicine, through which physicians demonstrate a creative capacity to connect with patients, acknowledging suffering as part of the human experience, and in doing so, advance healing?

The pathic clinical examination

When, as family physicians we contemplate our day - a list composed of appointment slots with signs and symptoms - the list is not defined by symptoms, nor the associated physical examination, but by the person. Alia's lump, Imran's bump, Sean's aching back; the doctor's personal knowledge and a relationship with the patient, their values and context informs how s/he will conduct each patient's physical examination. In this way, the physical examination is pathic, an embodied act of personal presence, relational perceptiveness and emotional awareness.[7] Consider for example Alia's lump - history suggests a simple lipoma, but knowing Alia's Mother died last year of breast cancer prompts a more thorough examination and explanation as to the lump's mobility, soft texture and that surrounding lymph nodes are normal. Putting a finger on Sean's sore back 'not just there, over a little….ah, that's the spot, doc', allows the doctor and patient to mutually acknowledge pain in a tangible way. From an intellectual standpoint, physical examination maybe deemed 'unnecessary', for example, Betty, who following a comprehensive cardiac work-up of investigations asks her family physician to listen to her heart. There is a reassurance to the simple act of placing a stethoscope on warm skin. Listening to the regular

lub-dub of the heart builds trust between a worried patient and their doctor. It allows the doctor to acknowledge the patient's vulnerability and fear, by being physically present. Often, in family medicine, the value of the physical examination is not in what is found, but in what isn't found. Physical examination deepens the doctor-patient relationship and permits empathy to be expressed and shared.[8]

While many physicians talk as they examine patients, frequently the real exchange of information is non-verbal. Betty does not need to ask her general practitioner to examine her, her doctor has already recognised from the sweaty palm and anxious gaze that action will soothe more than the reassurance of words. The routine of performing the physical examinations allows both patient and physician to enter a world of shared meaning. Objective and subjective information is exchanged through the ritual of inspection, palpation and auscultation. Here physical examination is embodied, the perceptual fields of patient and physician create new horizons of perception and understanding, sharing the world they have in common. Our common corporality opens us to a shared social world.[9] Often, nothing is said, a nod here, a firm press there, holding the patient's eyes. Sometimes, this silence says more than is possible, for example, when the fetal heart sound fails to appear, and as the Sonic aid searches, probing more firmly, applying more gel, the moment stretches intensely. The family physician's eyes fixate on the abdomen, turning up the volume, willing the heart beat to appear, dreading lifting her eyes to the anxious eyes of the woman desperately reading her face. Micro-seconds to compose next sentences of the consultation. Empathy is not merely cognitive, but felt deeply, in one's ears, eyes, hands and heart.

The virtual examination

Recent times have been challenging. Remote consultations can be intense and tiring. There is something missing from the clinical interaction. The energy of human exchange and interaction is altered. We have lost familiar cues of body language. Simple visual hints, such as when Sean walks down to your consultation room and you notice that his shoes laces are untied given that he is unable to bend over due to his back pain. Tell-tale smells of frailty, a tinge of stale urine, crusted food on a jumper. Previously, simply by entering the room, it was possible to tell there was something wrong. Or indeed, when the patient leaves the room and the 'door handle' question, as the patient reads his doctor to ask 'there is one more thing that is on my mind…..' Now we need to work harder to create intimacy and articulate the more subtle issues.

Virtual consultations have altered our kinesthetic awareness and how we decode nonverbal communication. While we have lost the sense of touch, our ability to hear may be enhanced, leading to a new 'sensory ordering' in terms of clinical decision making.[10] Rather than separating out aspects of the physical examination (inspection, palpation, auscultation), virtual care underscores the multimodal interplay of our senses and how they inform clinical interpretation an emergent whole. That is, the sight of Betty's anxious face, the feel of her sweaty hand, the sound of her fast heartbeat, are all interpreted synchronously. More importantly, perhaps also, virtual care emphasizes the inter-subjective nature of doctor-patient interaction during the physical examination. The patient's body is not passive, but responsive and directing. The loss of the immediately physical component of patient contact emphasizes how rational and pathic dimensions of patient-doctor interaction8 are symbiotic. It demands we think creatively about how to retain and develop both aspects of patient care.

What might the future hold for physical examination? The technology of the stethoscope, once a revolutionary new tool, has become a technology of the self,[11] tied up in physician identity, symbolic of the art and science of medicine. As we venture into new clinical territory, rather than be nostalgic for the past, virtual care may herald new directions, new identities - similar to the excitement of the 1800s when many innovations in physical examination were considered newfangled! Digital technologies are already part of everyday life. Perhaps it is not unreasonable to look to a future when our sensory skills can be enhanced, such that 'examination' while virtual can still exemplify doctor-patient connection. Already physician perception is extended, the ability to constantly monitor blood pressure, oxygen, glucose indicate how entangled extra-somatic sources of information

are in 'physical examination'. We are, as Haraway claimed already 'hybrids of machine and organism, with heighted connection to our tools'.[12,13] Just as Polyani recognised[14] that we assimilate tools as part of our existence, perhaps the future identity of general practice is to adapt and assimilate new technologies which can enhance our embodied exchanges with patients. Seeing a patient then becomes more than looking at an image, but requires the doctor to work to see through the technology, for example, eye contact requires us to look through the eye of the camera.[13] As a proficient presenter 'reads the room' prior to delivering a presentation, doctors need to look through the web camera and 'read the room' of the person on the screen in front of them. This requires a re-imaging of the sensory work required for diagnosis, and development of new forms of sensory knowledge. What is important then for the future of physical examination is not the technical skills, nor the role of technology itself, but rather the epistemological assumptions that underpin the role of physical examination. Here we propose the important need to balance the dominance of a techno-rationale discourse with a conversation on the co-constructed embodied and sensory way in which doctors and patients connect. In this way, virtual examination will reshape patient care.

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