Positive PACT ®- Principles and Practice

Positive Progressive Affective Cycle of Therapy

Discussion Paper

Positive PACT®: Principles and Practice

Galen Myotherapy®

Galen (Canine) Myotherapy® promotes health and treats chronic muscular pain in dogs through unique massage techniques, biomechanical assessment and functional rehabilitative exercise. It is concerned with the prevention, management and treatment of movement and allied disorders. It encompasses detailed assessments and effective treatment programs, including specialised massage techniques along with dynamic remedial and strengthening activities, to manage the chronic muscular pain and inflammation that is caused by the many different conditions that are common in a dog's life.

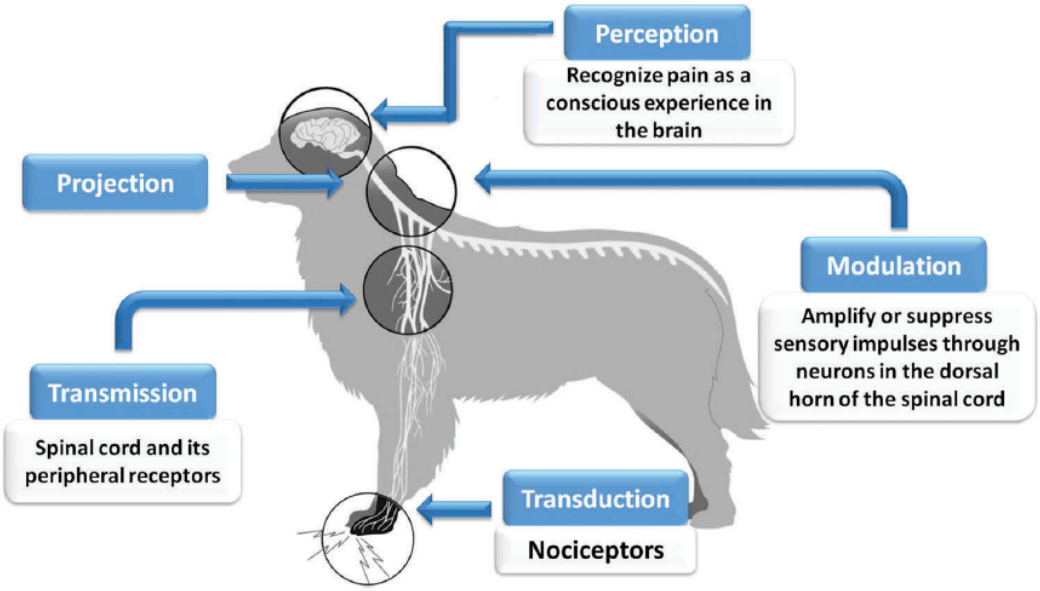
Positive PACT® is a term that Galen Myotherapy has given to their choice-led treatment methodology. This methodology is based on the principles of Galen Myotherapy. These principles originated from Julia Robertson's observations and treatments of more than 8,000 dogs over two decades. Positive PACT® is based on a cycle of choice-led treatment involving a trinity relationship between the patient (canine), the therapist and the guardian. The patient has freedom of movement, during the treatment process of painful chronic muscular issues or dysfunction.

Pain is a complex, multifactorial phenomena incorporating physical, emotional, cognitive and behavioural factors (Corns *et al.,* 2017). Recent theoretical and technological advances have developed a range of approaches encompassing philosophical, neuroscientific and psychological perspectives of pain. Currently, no single approach predominates or is universally accepted and in choosing which to attend to it has been necessary to leave others aside. Here we focus on acute pain and chronic pain as we believe our patients[1] experience and may present with both, for a full review of pain see Corns *et al.,* (2017).

Acute pain is moderated by the somatosensory pathways of nociception (transduction) and conducted to the central nervous system (CNS) (transmission) bringing the perception of pain to conscious awareness (perception). However, pain is affected by modulation i.e., the process of dampening or amplifying nociceptive signals (see Figure 1). In mammals two systems exist to monitor and respond to pain namely, exteroception to monitor the environment for external threats via the senses and interception as a homeostatic system that monitors the body and responses as a form of internal perception (Armstrong, 1962, 1968; Pitcher, 1970, 1971). Overall, pain is an adaptive and information-bearing state conveying direction to the body to act to maintain homeostasis and prevent further harm (Hardcastle, 2017).

[1] Patient is the term used in this document to describe the animal being treated.

Figure 1: Diagram of the pain pathway (Hernandez-Avalos *et al.,* 2019)



Chronic pain plays a role in Galen Myotherapy® as many of patients present with long histories of pain due to osteoarthritis, repetitive strain injuries, muscular pain, ongoing lameness and compensatory issues notwithstanding breed specific health problems which are well documented in dogs (Anderson *et al.,* 2017; Wiles *et al.,* 2017; Rusbridge, 2020; O'Neil *et al,* 2021). As such patients suffer from chronic pain as defined by Trede *et al.,* (2015) as 'pain lasting for more than three to six months'. Consequently, Galen Myotherapy® takes place against a backdrop and a burden of chronic pain in patients. Chronic pain has been shown to increase the perception and sensitivity to pain and (Bushnell *et al.,* 2013). The effects of chronic pain also impact upon other aspects of quality-of-life including cognition with a reduced ability to learn, emotional changes including anxiety (Bushell *et al.* 2013) social relationships (Duenas *et al.,* 2016), functionality (Turk *et al.,* 2016) and fatigue (Van Damme *et al.,* 2018).

Pain has been defined by the International Association for the Study of Pain (ISAP) as *""An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage"* (ISAP, 2020). This definition is expanded upon by these six key notes:

- *Pain is always a personal experience that is influenced to varying degrees by biological, psychological, and social factors.*
- *Pain and nociception are different phenomena. Pain cannot be inferred solely from activity in sensory neurons.*
- *Through their life experiences, individuals learn the concept of pain.*
- *A person's report of an experience as pain should be respected.*

Although pain usually serves an adaptive role, it may have adverse effects on function and social and psychological well-being.

Verbal description is only one of several behaviors to express pain; inability to communicate does not negate the possibility that a human or a nonhuman animal experiences pain.

This definition acknowledges pain as both a physical and emotional experience. According to Strigo and Craig (2017) "pain is a feeling and an emotion which demands a behavioural response" and is described as a *homeostatic emotion* akin to touch and itch (Craig, 2003) requiring emotional and behavioural responses from the organism to maintain homeostasis. Homeostasis is a dynamic process comprising many integrated mechanisms to maintain optimal balance throughout the body necessary for sustaining life and ensuring survival (Canon, 1939).

Pain is essentially a private and subjective experience, known only to the individual (Coates, 2007). Furthermore, difficulties treating pain in non-human patients are compounded in practice by the challenges of assessing pain in animal patients. However, due to similarities between mammalian species in both emotion and expression (Darwin, 2009) it is possible to extrapolate how our patients might be feeling. The effects of pain on behaviour in animals are well recognized and can be observed as changes in behaviour (Morton *et al.* 2005). Furthermore, humans possess the ability to recognize pain in others, known as pain empathy (Lamm *et al.,* 2011).

Principles of Positive PACT

1. **Animal Sentience**

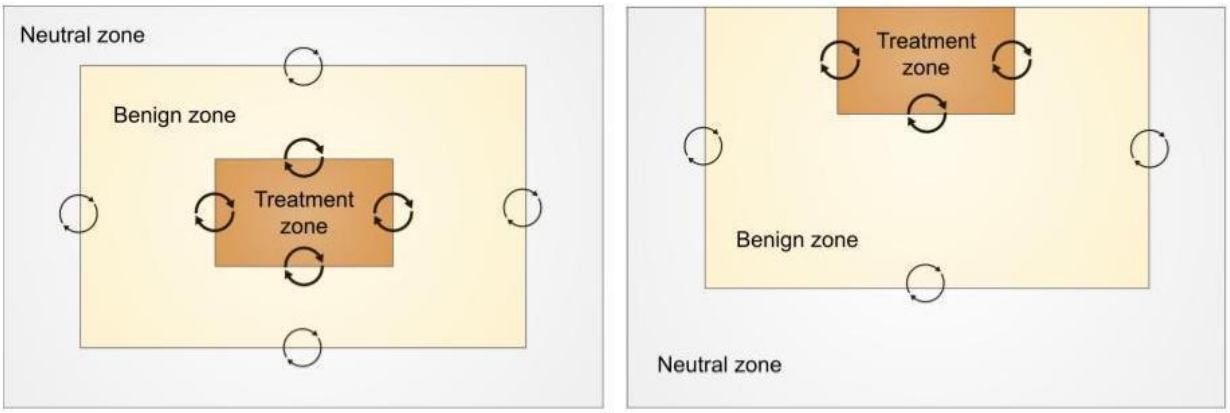
Positive PACT® is based on the belief in animals as sentient beings with rich emotional lives (Panksepp, 2009) capable of experiencing anxiety, fear, panic, frustration, helplessness, loneliness and depression (Mellor, 2016). Positive PACT® recognizes the importance of identifying and addressing the animal's emotional state as part of any treatment or intervention, consistent with principles by Mills *et al.,* (2013), Mills, (2017), Csoltova and Mehinagic, (2020) and Fatjo and Bowen, (2020). Positive PACT® acknowledges animals' cognitive abilities to experience pain as a physical and affective experience requiring corresponding emotional and behavioural responses to maintain homeostasis and prevent further harm (Strigo and Craig, 2017).

2. **Choice**

Positive PACT®, Galen's unique 'choice led treatment' protocol acknowledges the individual's unique experience and ability to regulate their own pain through choice. Choice enables the selection of consequences which are of benefit to the animal which are likely to be repeated and the avoidance of consequences that are deleterious and therefore to be avoided (Schneider, 2012). As such, choice is important for wellbeing (Schneider, 2012). Positive PACT® respects the animal's ability to control treatment by recognising and respecting their emotional and behavioural responses to pain as freedom of movement. The patient is at liberty to choose freely between treatment and cessation of treatment

by moving into the treatment area to select treatment and to pause treatment by moving away from the treatment area into the benign area (see Figure 2). Sometimes known as 'start' and 'stop' button behaviours (Bertilsson *et al.,* 2015) after (Skinner, 1957). Although Positive PACT® shares some similarities with other approaches to co-operative care and participation in care, reinforcement, progression and learning within Positive PACT® are based purely on intrinsic motivation and the animal's ability to choose (Schneider, 2012) rather than extrinsic motivation in the form of food or toys. Choice, predictability, and control over the environment have been demonstrated to be powerful reinforcers for both humans and animals (Schneider, 2012). In addition, the anticipation of the relief of pain has been shown to have analgesic effects in itself (Bushnell *et al.,* 2013). Conversely, the denial of choice has adverse consequences for the individual including learned helplessness and depression (Leotti *et al.,* 2010).

Figure 2: Treatment, Benign and Neutral Zones and patient's (canine) movement within Positive PACT®



3. Freedom of movement

As well as being an unpleasant physical and sensory experience, pain is also a strong driver for behavioural responses to pain for protection from harm and to prevent further injury (Riecansky and Lamm, 2019; Hernandez-Avalos *et al.,* 2019). The dog is allowed to move freely away from the treatment zone to the benign zone. No attempt is made by the therapist or the dog's guardian to inhibit, restrain, or prevent the dog's movement thereby enabling freedom of movement and choice. At this point the dog freely engages in other behaviours, including but not limited to exploration of the benign zone, rest and sniffing characterised by deep breaths on inspiration and nose hovering horizontally close to the ground. It is our belief that these pauses in treatment and associated behaviours are significant in the patient's ability to think and re-evaluate before either returning to the treatment zone or ending treatment by selecting the neutral zone. When a dog leaves the treatment zone, the guardian is requested not to prompt the dog to return, but can support their dog by being present, offering reassurance and prosaic speech. However, the therapist may request the dog to engage with the treatment zone, or the dog may voluntarily return to the treatment zone. Here, we draw on Craig's

(2003) notion of pain as a homeostatic emotion and interception (Armstrong, 1962, 1968; Pitcher, 1970, 1971) governing the dog's ability to regulate their own pain and consequently treatment, leading us to the conclusion that "*the organism is always right"* (Skinner, 1977).

4. Progressive therapeutic relationship

The importance of the dog's first experience with the treatment environment as a positive experience cannot be overstated. Within the Positive PACT® process we observe the dog's first experience of the treatment zone almost as akin to a 'test purchase', whereby the dog steps on and then immediately off the treatment zone followed by exploratory behaviour including moving around the benign zone and sniffing. Here we draw upon Moscarello and Hartley's (2017) theories of agency and associated behaviour. Both humans and animals gain information about their agency as a result of their experiences across a variety of contexts and generalize this experience to new environments (Moscarello and Hartley, 2017). We suggest that the initial engagement with the new environment establishes the dog's agency within the treatment environment. This is followed by cycles of repeated engagement with treatment based on the dog's choice leading to a progressive cycle of reinforcement based upon the consequences of behaviour (Schneider, 2012).

For some dogs, depending upon their previous experiences, this new experience could be confusing. The 'trinity' relationship of canine, guardian (human) and therapist is intrinsic to a dynamic, positive and affective cycle of Positive PACT. These relationships offer supportive actions and body language for the patient (dog) to feel equipped to express their autonomy through the treatment process.. Therefore, the dogs are supported by the guardian via body language, timely visual connection and prosaic speech or motherese described by Bornstein (2013) and (*J Am Vet Med Assoc* 2020;257:1031–1040) . Motherese in human and animal studies has been shown to encourage turn taking and reciprocity (Bornstein, 2013) which may generalize to behaviour and engagement with treatment. It is important to assess and treat each dog as an individual and offer no more than an 'appropriate challenge' for each dog based on their skills and agency to prevent anxiety (Meehan and Mench, 2007).

5. Treatment empowerment

The ability to practice agency and choice is dependent upon the environment (Moscarello and Hartley, 2017). Positive PACT® empowers the patient to regulate treatment by participating on their own terms according to their cognitive and sentient abilities. The freedom to express natural behaviour and freedom from fear, pain and disease are fundamental welfare needs of all animals enshrined in five freedoms of animal welfare (HMSO, 1965). These fundamental freedoms are even more important when animals are compromised by the burden of chronic pain and disease. Positive PACT® gives dogs the time and space to actively shape their own care through empowerment, participation, giving choice, creating safety and control over their environment. All factors which have been demonstrated to reduce fear and anxiety, pain and improve wellbeing (Bushnell *et al.,* 2013) based upon a scientific understanding of ethology and animal sentience (Panksepp, 2009). Positive PACT® goes beyond the sensory aspects of

pain and considers the cognitive and emotional characteristics of pain to develop both effective and humane treatment and management of pain.

Conclusion

Pain is a complex, multifactorial phenomena incorporating physical, emotional, cognitive and behavioural factors. Positive PACT allows a dog to have autonomy over their own body and therefore autonomy over their own intensity and pace of treatment, thus enabling treatment of areas that would otherwise be highly resistant to any form of contact treatment. Therefore implementing this positive progressive affected cycle of treatment (Positive PACT) produces choice-led effective and perceivable pain management of chronic muscular pain and inflammation that is caused by the many different conditions that are common in a dog's life.

Definition of terms:

Patient. *In this document the word 'patient' is used for the animal receiving the treatment. Within Galen Myotherapy, our term is either 'the dog', or the canine.*

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