

# RELAXATION: A NURSING THERAPY TO HELP RELIEVE CARDIAC CHEST PAIN

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## ABSTRACT

The experience of cardiac chest pain is always traumatic and stressful for patients. The available literature suggests that although nurses place a lot of importance on cardiac patients being pain free, it is apparent this is often not achieved. Research and documented case studies suggest that relaxation can play an important role in the treatment and prevention of this distressing symptom (Tiernan 1994; Altice and Jamison 1989; Guzzetta 1989). Nurses caring for patients with chest pain need to look beyond medical management and begin to challenge nursing practice to help patients deal effectively with chest pain in a way that meets each individual's needs. This article discusses ways in which relaxation, when used as an adjunct to medical therapies, can be a useful nursing management tool for effectively relieving cardiac pain.

## INTRODUCTION

Imagine a pain in your chest so severe that you feel as if you are going to die. It is difficult to breathe, you are terrified, feel out of control and anxious. Chest pain is the initial symptom of many life threatening disease processes, such as myocardial infarction, pulmonary embolism, and aortic aneurysm. It is a warning sign of actual or potential injury to a structure within the thoracic cavity (Falloon and Roques 1997). Chest pain is a devastating symptom can have a permanent impact on the patient's life, including negative psychological effect which is on the sufferer. On a cognitive level the patient's perception of pain is of critical importance. Pain isolates coronary patients because it limits their normal activities of daily living, causing fear of routine tasks, potentially decreasing confidence and self-esteem. It can disrupt thought and overwhelm the sufferer (O'Conner 1995). It is suggested that the rapid relief of cardiac chest pain can help to minimise or alleviate its impact, reducing fear and anxiety (Lappin 1998). The reduction of fear and anxiety can also aid in the reduction of cardiac chest pain and it is suggested that this can be achieved through interventions such as relaxation (Miller and Perry 1990).

Although many nurses may regard medical treatments as the immediate or usual method of relieving pain, interventions for chest pain should not be limited to pharmacology. A broad range of nursing interventions such as relaxation techniques, verbal and non-verbal reassurance, distraction, repositioning, and enhancement of the placebo effect through the use of positive statements, may assist with the relief of pain (Altice and Jamison 1989). It is extremely important that the patient is accurately and promptly assessed prior to the commencement of relaxation therapy, so that the patient can be provided with accurate, rapid and appropriate medical treatment for the underlying cause of the pain (Thompson 1989).

This article discusses the benefits of relaxation therapy and specific relaxation strategies in chest pain management. Relaxation is defined by Guzzetta and Dossey (1992, p100) as 'the absence of physical, mental,

and emotional tension', and by McCaffery et al (1994, p168) as 'a state of relative freedom from both anxiety and skeletal muscle tension, a quietening or calming of the mind and muscles'.

## LITERATURE REVIEW

There is a significant amount of literature relating to the medical and nursing assessment, differentiation, and treatment of chest pain. Jacavone and Dostal (1992) found that nurses placed considerable importance on relieving patients' chest pain, thus partially or totally relieving the causative ischaemic process. They also identified that nurses were taught that relief of a patient's chest pain was extremely important and should be one of the aims of care. Nurses then shared this knowledge with their patients. Available literature suggests that despite the apparent importance of relieving pain it is often inadequately reported or treated.

Many studies have documented the issues associated with accurate interpretation of patient's chest pain and the effectiveness of nursing and medical interventions. Thompson et al (1993) compared the interpretation of pain intensity between patients and the nurses caring for them. These authors found that pain interpretation was quite similar, but nursing management of pain was often inconsistent and inadequate. O'Conner (1995) studied patients' and nurses' ratings of chest pain, and discovered that nurses underestimated pain severity in up to forty percent of cases, especially if the pain was severe.

Willett (1989) suggests that under-treatment of chest pain is related to nurses' misconceptions about addiction, poor knowledge of drug action and duration, and fear of respiratory depression. Eighty percent of the cardiac patients in Willett's survey said their pain never really disappeared during their stay in the Coronary Care Unit (CCU), and forty percent of patients said anxiety about their condition increased because of the chest pain.

Schwartz and Keller (1993) examined the experience and reporting of chest pain. The patients who participated in this study experienced uncertainty in response to chest pain and expected to have some continued pain. Ruston (1998) looked at experiences of myocardial infarction and the actions patients took as a response to their experiences. They found delays in patients' reporting of pain were influenced by the idea that some continued chest pain was normal and expected; a belief that health care professionals were somehow able to detect pain; and the feelings of uncertainty that accompanied the pain experience. Mackintosh (1994) and Rowe (1996) identified that poor communication between doctors, nurses and patients can result in patients delaying the reporting of chest pain.

Miller et al (1998) suggest that patients who are able to communicate appreciate health care professionals who spend time with them, are attentive and listen. Caunt (1992) suggested that other variables which influence the management of pain include having a calm restful environment; the teaching of relaxation; the ability of patients to carry out a relaxation method; the ability to understand the reason for the pain and the importance of reporting pain.

The Lifestyle Heart Trial investigated whether mobile patients with existing cardiac conditions could be motivated to make comprehensive lifestyle changes and whether or not these changes would result in a reduction of coronary atherosclerosis. The results of this trial suggested a correlation between comprehensive lifestyle changes and a reduction in coronary atherosclerosis. The lifestyle changes included stress management such as stretching, progressive relaxation, breathing exercises, meditation and visualisation (Ornish et al 1998; Ornish 1991). These results indicate that relaxation may play an important role in the treatment and prevention of coronary atherosclerosis.

Holden (1992) demonstrated the application of psychological approaches to pain management by using relaxation, breathing exercises and taped sounds to help a seriously ill patient cope with anxiety attacks. Guzzetta (1989) discovered relaxation and music therapy reduced stress and lowered the incidence of cardiac complications in patients with a presumptive diagnosis of myocardial infarction. Miller and Perry (1990) found that deep breathing relaxation techniques used in postoperative coronary bypass patients resulted in significant decreases in blood pressure, pulse rate, and respiratory rate. From the available literature it is apparent that nurses need to find effective ways of encouraging the reporting of chest pain and of assisting the patient to gain adequate relief of the pain.

## DISCUSSION

Consider a situation where a few days after a patient suffers a heart attack the pain returns to the patient's chest and left arm. The patient rings the call bell to get help. The nurse arrives and on assessment finds that the patient has chest pain rated at seven out of ten on a pain scale and appears anxious. The nurse commences cardiac monitoring, performs an electrocardiograph (ECG), and gives the patient some nitrolingual spray and a Diazepam tablet then leaves the patient alone with their pain. Although the medical management and pharmacological treatment of chest pain is of critical importance, there are nursing measures that can be used to complement medical treatments. With accurate assessment and recognition of anxiety these nursing measures can result in more rapid,

effective pain relief and an associated reduction in the need for anti-anxiety drugs.

Cardiac chest pain usually occurs as a result of the oxygen demand of the heart muscle exceeding the oxygen supply due to decreased coronary circulation. It is a recognised symptom of coronary artery disease or coronary artery spasm. Cardiovascular disease or systemic illnesses, which result in an inability to increase myocardial oxygen supply to meet demand, may also cause chest pain. Medical management of this pain usually involves the use of nitrates to dilate the coronary arteries, and narcotics to reduce pain and decrease myocardial oxygen demand (Isselbacher et al 1994; Guzzetta and Dossey 1992).

Episodes of acute pain are often accompanied by some degree of fear, anxiety or depression. The presence of these emotional reactions increases the body's sympathetic responses by raising levels of endogenous catecholamines, noradrenalin, and norepinephrine, causing an increase in myocardial oxygen demand, increased ischaemic pain, and possibly an increase in arrhythmias. It is generally thought that the greater the person's anxiety the greater their experience of pain will be (Pedley 1996; Mackintosh 1994; Thompson 1989; Benson 1975).

The patient's perception of chest pain is of great importance. It affects how the patient copes with the pain and how relief is obtained, and for this reason a psychological approach to pain relief may be useful (Lappin 1998). Such approaches to pain management attempt to alter the patient's perception of pain and provide alternative behaviour patterns for dealing with that pain (Cornock 1996).

The relaxation response has been documented as a way of reducing pain. According to Benson et al (1974 p37) 'the relaxation response appears to be an integrated hypothalamic response resulting in a generalised decrease in sympathetic nervous system activity' and possibly an increase in parasympathetic activity. Oxygen consumption decreases and both pulse and respiration rates have also been found to decrease. Benson (1982; Benson et al 1977) suggest that the relaxation response may be of preventative and therapeutic value when treating illnesses which are exacerbated by prolonged stress, for example hypertension. It is possible to elicit the relaxation response through a variety of relaxation techniques (Benson 1982).

Relaxation may be considered a nursing therapy which has been found to decrease anxiety and enhance pain relief and that can be applied in almost any setting (Pedley 1996; Altice and Jamison 1989). Factors that affect the individual's ability to participate in relaxation therapy include age, health state, fear, medication, belief systems, cultural factors and willingness to participate (McCaffery et al 1994; Guzzetta and Dossey 1992).

Relaxation offers potential benefit for people in pain because of the relationship between muscle tension, pain and anxiety. Relaxation skills allow the individual to focus inward, evoke inner calm, and control awareness and linear time. It is an acquired skill that needs to be taught prior to episodes of pain to be effective (Guzzetta and Dossey 1992). This can be achieved within a coronary care ward by providing regular relaxation sessions. The ward in which the author worked achieved this by conducting an optional relaxation session every Wednesday afternoon during the normal patient rest period.

Relaxation therapy has been shown to offer a variety of benefits including; aiding sleep; strengthening the nurse-patient relationship; improving problem-solving; minimising the detrimental effects of continued or repeated episodes of pain; reducing pain; increasing confidence and decreasing fatigue. It may provide distraction from pain and increase the effectiveness of other pain relief measures. Relaxation may help to make pain more tolerable and decrease fear or distress (McCaffery et al 1994). It is important to note that relaxation therapy is not a substitute for cardiac assessment or medical interventions but may be a useful adjunct in the management of cardiac pain.

### Teaching relaxation

Before teaching relaxation it is important that the patient is assessed for readiness to learn. Relaxation techniques require patient cooperation and participation therefore it is important that the patient understands how and why relaxation would benefit them (Pedley 1996; Tiernan 1994). They should choose the method or strategy of relaxation with which they feel most comfortable. Once the patient's willingness to learn has been established and a relaxation strategy chosen, a quiet and comfortable environment should be arranged (Guzzetta and Dossey 1992).

Guzzetta and Dossey (1992) suggest that strategies for teaching relaxation should include; breathing exercises; repetition of autogenic phrases; progressive muscle relaxation; and body scanning. Relaxation imagery is also a useful relaxation method. Imagery is defined by Tiernan (1994 p48) as 'the perception of a mental representation of reality'. Using images the patient is able to respond to unconscious physiologic processes. Guided imagery can be useful and usually follows the relaxation exercise (Carroll and Bowsher 1995; Guzzetta and Dossey 1992).

Other useful relaxation strategies include biofeedback, the use of prayer, meditation, drawing images, listening to music and the invoking of the relaxation response through passive concentration and the slow repetition of a single word on exhalation for 15 to 20 minutes (Cornock 1996; Carroll and Bowsher 1995; McCaffery et al 1994; Guzzetta and Dossey 1992; Guzzetta 1989).

A variety of relaxation imagery exercises can be used by patients with chest pain. It is important to check what the patient feels comfortable with and likes to do. There are many relaxation techniques that take varied amounts of time. The following technique is recommended by McCaffery et al (1994):

1. *Breathe in deeply and clench your fists*
2. *Breathe out and go as limp as a rag doll.*
3. *Start yawning.*

*These steps should be repeated until the patient is relaxed.*

(McCaffery 1994)

Music and relaxation tapes can also be useful in relaxation imagery. To incorporate this into the ward or unit environment it would be necessary to develop a tape library and have several cassette players with headphones. When using music as part of a relaxation strategy the patient and not the nurse should select the music (Guzzetta and Dossey 1992; McCaffery 1979).

The author has used both progressive muscle relaxation and relaxation imagery in her nursing practice to help relieve pain and anxiety among patients with acute episodes of chest pain. The author has found them to be effective in reducing fear and assisting with the relief of this pain. The author's experience indicates that most patients are willing to learn and try these techniques when the nurse is prepared to take the time to support them. Giving patients education in relaxation techniques provides them with skills they can use to reduce pain and give them some control over what is happening to them.

## RECOMMENDATIONS

Patients suffering from cardiac chest pain occurring as a result of decreased oxygen supply to the heart muscle may benefit from the use of relaxation to elicit the relaxation response (Benson et al 1977). The Lifestyle Heart Trial research (Ornish 1991; Ornish et al 1998) also indicates that cardiac patients benefit from lifestyle changes that include the reduction of stress through the use of relaxation strategies.

To achieve this, nurses need to acquire the skills necessary to teach and facilitate relaxation and the knowledge of how relaxation strategies can be used to elicit the relaxation response. The author suggests that relaxation strategies should be taught to nurses at undergraduate level or during initial training, this occurs to some extent in some current nursing education programs but needs a more focused approach.

Patients should be taught and encouraged to practice relaxation techniques with which they feel comfortable. Regular relaxation sessions should be set up within the

coronary care ward at a time when the patients can attend these sessions without interruption. Patients should be informed of the benefits and encouraged to attend regularly so that they develop relaxation skills to use at home. More than one session per week would be beneficial. Further research into the effects of relaxation on relief and prevention of chest pain should be undertaken.

## CONCLUSION

The available literature suggests that nurses need to look for ways to enhance pain relief for patients suffering from cardiac chest pain. Research related to both medical science and nursing science supports the use of relaxation as an adjunct to pain management. Although it may not be possible to use relaxation effectively on initial admission because relaxation techniques need to be learnt and practiced, relaxation has many potential benefits to the patient in pain.

Relaxation could be used as a tool to aid in the development of good communication patterns and trusting therapeutic relationships between the nurse and patient. Nurses need to have an understanding of relaxation strategies and their applications to be able to apply relaxation strategies as a means of reducing the pain and distress of cardiac patients. To achieve the goal of reducing cardiac patients' chest pain and associated anxiety all nursing staff in the coronary care area should learn, and be able to teach and facilitate, a variety of relaxation strategies.

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