IS IT ETHICAL FOR DENTISTS TO WIRE JAWS FOR WEIGHT LOSS?

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A Research Report submitted to the Faculty of Health Sciences, University of the Witwatersrand, in part fulfilment of the requirements for the degree of Master of Science in Medicine in Bioethics & Health Law

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DECLARATION

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ABSTRACT

Jaw wiring is traditionally used to treat fractures of the jaws but when jaw wiring is used for weight loss, it becomes an ethically questionable treatment modality. The ethics of jaw wiring for weight loss is normatively analysed using the philosophical theories of utilitarianism, principlism and deontology. Using utilitarianism, it is argued that the risks of jaw wiring for weight loss outweighs the benefits, concluding that it is unethical to wire jaws for weight loss. The principles of autonomy, beneficence, non-maleficence, and justice are applied to the ethical dilemma of jaw wiring for weight loss. It is argued that autonomy is not absolute and that the principles of non-maleficence, beneficence and justice trump the patient's autonomous request when the request is not in the patient's best interest. The scope of dental practice is critically analysed using the theory of deontology and it is argued that jaw wiring for weight loss falls out of the scope of dental practice when the dentist independently wires jaws for weight loss.

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CHAPTER 1- INTRODUCTION

1.1 Research Question

The aim of the research provides a normative analysis on whether it is ethical for dentists to wire patients' jaws for the purpose of losing weight. To fulfil this aim the research question: Is it ethical for dentists to wire jaws for weight loss is tackled.

It is argued that it is unethical for dentists to wire jaws for weight loss using the ethical theories of utilitarianism, principlism and deontology.

1.2 Rationale For The Study

General dentists, are often faced with ethical challenges. Dentists are faced with an ethical dilemma when approached by patients to assist them with weight loss by wiring their jaws. This research report is based on the ethical dilemma a dentist is faced with when requested to wire jaws for weight loss. Furthermore, there are no ethical studies in South Africa with regards to jaw wiring for weight loss. This normative research gives clarity to the ambiguity that surrounds the scope of practice for dentists. Dentists are trained to wire jaws to treat jaw fractures which falls within the scope of dental practice. When jaws are wired for weight loss, the intended purpose for the procedure falls out of the scope of dentistry. This raises an ethical dilemma for a dentist. Would it be ethical to do a procedure which falls within the scope of practice for a treatment which falls out of the scope of dentistry?

This normative research evaluates the ethics of elective aesthetic treatment, specifically the question of the dentist assisting patient with weight loss for aesthetic reasons. Currently this is important, as there is a global increase in the requests by patients for elective aesthetic medical treatments (Rohrich, 2000; Mousavi, 2010). This has led to the blurring of lines between beauty and health as the health professional's role of being a healer is at risk of being changed to that of an aesthetician (Atiyeh, Rubeiz & Hayek, 2008).

1.3 Background Literature Analysis And Critique

1.3.1 Scope Of Dentists In South Africa Outlined By The Health Professions Act, 1974

Regulation 238 of the Health Professions Act (HPA) of 1974 which was finalised on the 6 March 2009 defines the scope of practice for dentists. Regulation 238 (2009), of the HPA (1974) states with regards to dentist's scope of practice that, "clinical examinations are limited to the physical clinical examination of the oral maxillofacial and related structures of a person". Regulation 238 (2009) of the HPA (1974), further states that the dentist's scope is limited to "diagnosis of diseases, injuries and conditions of the oral, maxillofacial and related structures, including determining the relevance of systemic conditions, and/or giving advice on such conditions''. Thus, dentists are oral health practitioners and are restricted to examination and diagnosis of the oral cavity and related structures only. Systemic conditions are those conditions which affect the whole body and not an isolated organ or part of the body. With regards to systemic conditions, dentists can ascertain the effects of systemic conditions on

oral health and advise the patient accordingly. Dentists are not involved in diagnosing and treating systemic conditions.

With regards to clinical procedures, Regulation 238 (2009) of the HPA (1974) states that dentists can, “perform dental procedures and/or prescribe medicines aimed at managing the oral health of a patient, including prevention, treatment, and rehabilitation,”. Regulation 238 (2009) of the HPA (1974), further states that dentists can “perform any procedure on a patient aimed at fitting or supplying a dental prosthesis or appliance”. According to the Act, clinical procedures that a dentist can carry out is clear. Dentists manage the oral health of patients and dentists can fit appliances and prosthesis within the oral cavity.

As for aesthetic procedures, Regulation 238 (2009) of the HPA (1974), states that dental practice is limited to, “performing any aesthetic or cosmetic procedure on a patient pertaining to the oral and peri-oral area. Dentists can do aesthetic work on teeth, gingiva and any intra-oral area. With regards to peri-oral structures the Act doesn’t specify which perioral structures, the dentist is limited to.

1.3.2 Jaw Wiring

Jaw wiring which is medically referred to as intermaxillary fixation is a treatment modality that is used by dental professionals to treat simple fractures of the upper and/ or lower jaws and for orthognathic surgery (jaw corrective surgery) (Hupp, Ellis & Tucker, 2008). Jaw wiring for fractures was first done in the seventeenth century (Perry, 2007). Wires are used to secure the upper and lower jaws together(Hupp, *et al.*, 2008). When treating a fracture, jaw wiring immobilizes the fracture and allows for

healing of the fracture (Hupp, *et al.*, 2008). In Orthognathic surgery the jaws are wired to allow healing of the jaw in the new position (Hupp, *et al.*, 2008). The jaws are wired for a period of approximately four to eight weeks (Hupp, *et al.*, 2008). The procedure of jaw wiring can be done under local anaesthetic and it is an inexpensive procedure (Kayani, *et al.*, 2015). The jaw wiring inhibits mouth opening and the patient is confined to liquid diet for the duration of the treatment (Kayani, *et al.*, 2015). Since a patient is unable to eat solids, jaw wiring can result in a patient losing weight (Kayani, *et al.*, 2015).

1.3.3 History Of Jaw Wiring For Weight Loss

The first few documented studies of jaw wiring for the purposes of weight loss were documented in the 1970s (Rodgers, *et al.*,1977; Laskin,1974; Wood,1977; Garrow,1974). Important aspects which were common to all these studies is discussed. Jaw wiring was used to treat obesity in all these studies (Rodgers, *et al.*, 1977; Laskin,1974; Wood,1977; Garrow,1974) The jaws were wired for the duration of six to twelve months(Rodgers, *et al.*,1977; Laskin,1974; Wood,1977; Garrow,1974). It was concluded from these studies, that jaw wiring can be used as a treatment for obesity, if it forms part of an integrated treatment plan (Rodgers, *et al.*, 1977; Laskin,1974; Wood,1977; Garrow,1974). The importance of having a multi-disciplinary team approach when using jaw wiring to treat obesity was emphasised in these studies (Rodgers, *et al.*, 1977; Laskin,1974; Wood,1977; Garrow,1974). Jaw wiring is preferred over intestinal bypass surgery because it can be done under local anaesthetic, its inexpensive and it is a non-permanent intervention (Rodgers, *et al.*,1977; Laskin,1974; Wood,1977; Garrow,1974). It was shown that patients who

participated in these studies struggled to maintain their weight, when the wires were removed (Rodgers, *et al.*, 1977; Laskin,1974; Wood,1977; Garrow,1974). Studies of jaw wiring in the last twenty years focussed on improving the technique, shortening the duration of the wiring and maintenance of weight loss when the wires are removed. (Al-Dhubhani and Al-Tarawneh, 2015; Nwoga, *et al.*, 2019; Kharma, *et al.*, 2016; Behbehani, *et al.*, 2006). The most recent study in Africa that analyses jaw wiring for weight loss was done in Nigeria and was published in 2019 (Nwoga, *et al.*, 2019). This study did not only include obese patients but also patients who wanted to improve their Body Mass Index (BMI) (Nwoga, *et al.*, 2019). There is currently no empirical research done in South Africa on jaw wiring for weight loss. However, South Africa like other developing countries has shown to have an increase in obesity which extends across all age groups and economic levels (Popkin,1994; Kruger, *et al.*, 2005). Obesity is a risk factor for non-communicable diseases like type 2 diabetes, hypertension, cardiovascular disease, breathing complications, and depression (Vorster, 2002). Thus, obesity poses a major public health concern in South Africa (Kruger, *et al.*, 2005).

1.3.4 Ethical Dilemmas Facing Dentists When Jaw Wiring Is Intended For Weight Loss

a) Dilemma with regards to scope of practice

Overeating starts in the mouth and dentists are involved with taking care of the mouth. Jaw wiring can be classified as a dental appliance. Hence according to Regulation 238 (2009) of the HPA (1974) jaw wiring falls within the scope of dentistry. Dentists are trained and equipped to do jaw wiring however, dentists are not trained to monitor weight loss (Kharma, *et al.*, 2016). In the medical setting weight loss is a treatment

that is used to address the systemic conditions of obesity and the overweight condition. According to Regulation 238 (2009) of the HPA (1974) dentists can determine the relevance of systemic conditions on oral health and advise the patient accordingly. Thus, dentists are not allowed to treat systemic conditions. While jaw wiring falls within the scope of practice for dentists, when jaw wiring is used for weight loss the intended purpose of the treatment falls outside the scope of practice for dentists.

b) Autonomy of patient vs best interest of the patient

A competent patient who approaches a dentist to have their jaw wired for weight loss demands that the dentist carries out the procedure because the patient is making an autonomous request. This is an elective procedure, and the patient is rational and mature. Is the patient's autonomy absolute? The dentist is faced with a dilemma. Should the dentist heed to the autonomous request of the individual and carry out an elective procedure or should the dentist be a paternalistic and refuse to carry out this procedure because it is not in the best interest of the patient?

1.4 Study Objectives

The main objectives of the study are:

a) To normatively analyse if it is ethical for dentists to wire jaws for weight loss using the philosophical theories of utilitarianism and principlism.
b) To normatively argue that jaw wiring for weight loss falls out of the scope of practice by applying the theory of deontology.

1.5 Methodology

This is a purely normative study which is desktop and library-based research. No new data is collected or analysed. There are no human participants involved in the research. The typical research methods and standards applicable to philosophical research have been employed. The research question has been answered by critically analysing and interpreting the most important literature relevant to the question. The critical analysis includes definitions and clarification of concepts. It also includes the analysis and evaluation of theoretical frameworks and the identification and criticisms of assumptions. Sources of literature include and are not limited to research articles, books and online databases and academic search engines. When using academic search engines, the following key words were used. These included, intermaxillary fixation for weight loss, jaw wiring for weight loss, ethics of elective procedures, medical paternalism, principlism and utilitarianism.

1.6 Argumentative Strategy

The normative theory of utilitarianism, principlism and deontology are used in the argumentative strategy.

1.6.1 The Theory Of Utilitarianism To Weigh Up Risks And Benefits Of Jaw Wiring

Utilitarianism is a philosophical theory that was founded in the 17th century. Utilitarianism is made up of three elements. These elements are: the morality of an

action is determined only by its consequences (Rachels and Rachels, 2019), the value of the consequences of an action is assessed in terms of the overall amount happiness or pleasure (Felzmann, 2017) and the in assessing the total happiness caused to several people, each individual person holds the same value (Rachels and Rachels, 2019; Rosenstand, 2017). Since utilitarianism is based on calculating the net utility of the consequences of an action, this theory can be used effectively to weigh up the risks and benefits of jaw wiring for weight loss. It has been argued that there are risks involved in jaw wiring for weight loss and that these risks outweigh the benefits.

1.6.2 Principlism And Best Interest

Beauchamp and Childress's principles of non-maleficence and beneficence suggests that the healthcare professionals should avoid harming their patients and always act in their best interest (Beauchamp and Childress, 2013). The patient is voluntary requesting the treatment; hence the principle of autonomy is analysed in the context of elective treatment. It has been argued that autonomy is not absolute, and that beneficence, non-maleficence and justice can trump the patient’s autonomy.

1.6.3 Deontology And Scope Of Practice

Deontology is a philosophical theory which bases morality on foundational principles of obligation and duty. Hence, deontology concentrates on the rights, duties, and legal obligations of the healthcare practitioner towards the patient. It has been argued that jaw wiring for weight loss falls out of the scope of dental practice when the dentist independently wires jaws, by analysing the duties, rights and legal obligations of the dentist to the patient.

1.7. Outline

The main aim of the research project is to argue that it is unethical for dentists to wire jaws for weight loss. Chapter two gives a background to jaw wiring which is necessary to understand the ethical arguments that follow. Chapter three involves a critical analysis of the theory of utilitarianism in weighing up the risks and benefits of jaw wiring for weight loss. In chapter four, principlism is normatively analysed and it is argued that it is ethical for a dentist to override the patients autonomous request for treatment when the request is not in the best interest of the patient. Chapter five is a critical evaluation of deontology with reference to scope of dental practice. The report is concluded in chapter six by arguing by arguing that it is unethical for dentists to independently wire jaws for weight loss.

1.8 Ethics

The research study does not involve any human participants. Hence, there are no ethical issues that need to be taken into consideration. However, an ethics waiver has been applied for from the Wits HREC (medical), as the findings of this report is intended to be published in accredited journals.

1.9 Limitations

There is no empirical research or ethical research available in South Africa that studies jaw wiring for weight loss. There are empirical and ethical studies done globally, but this was also limited. A journal article which is useful to this research topic is in German

and only the abstract is available in English. Some of the articles that are useful are not accessible from the Wits portal and need to be purchased.

CHAPTER 2- BACKGROUND TO JAW WIRING

2.1 Introduction

This chapter aims to give the reader an understanding of the procedure of jaw wiring or intermaxillary fixation. Understanding the procedure is essential to understanding the ethical arguments that follow in the subsequent chapters of the report. This chapter explains the procedure of jaw wiring, and the different techniques that are used. Thereafter, the reasons for the requests of jaw wiring by individuals are clarified and it is explained that jaw wiring is a controversial choice.

2.2 Procedure Of Jaw Wiring For Weight Loss

Jaw wiring or intermaxillary fixation is a treatment modality that is traditionally used to heal jaw fractures and in orthognathic surgery (Hupp, Tucker & Ellis, 2018). The purpose of wiring the jaws in fractures and in orthognathic surgery is to immobilise the jaw and therefore facilitate healing (Hupp, *et al*., 2018). When the jaws are wired together, it inhibits mouth opening and the patient is confined to a liquid diet for the duration of the treatment (Kayani, *et al*., 2015). Being confined to a liquid diet can result in weight loss (Kayani, *et al*., 2015). The main purpose of jaw wiring in fractures and orthognathic surgery is to facilitate healing. This is a treatment modality used and the resulting weight loss is a side effect of the treatment.

There are two techniques that can be used to wire the jaws for weight loss. These are conventional jaw wiring and orthodontic jaw wiring (Al-Dhubhani and Al-Tarawneh, 2015). Both these techniques are done under local anaesthetic (Al-Dhubhani and Al-Tarawneh, 2015). Conventional jaw wiring is an older technique that was initially used

to wire jaws for weight loss (Al-Dhubhani and Al-Tarawneh, 2015). Wires are passed through the interdental spaces of the maxillary and mandibular molars (Al-Dhubhani and Al-Tarawneh, 2015). These wires then act as a means of anchorage to limit mouth opening. With orthodontic jaw wiring orthodontic brackets are used as an anchor to secure wires that limit mouth opening (Al-Dhubhani and Al-Tarawneh, 2015). For purposes of this research report, the ethical analysis will be relevant for both techniques used as both these techniques cause weight loss.

2.3 Understanding The Request For Weight Loss

At present, globally there is an increase in requests for elective aesthetic medical treatment by individuals (Mousavi, 2010). This is due to society putting emphasis on image (Mousavi, 2010). The culture of image obsession is due to active and aggressive media platforms, which has globalised the perception of what the definition of attractive is (Mousavi, 2010). Constant exposure to images of thin individuals can lead to body dissatisfaction (Ogden and Mundray,1996). This has been a contributing factor to eating disorders and body dysmorphic disorder (Ogden and Mundray, 1996).

Individuals seek medical interventions to lose weight for either health related reasons or to improve their appearance or both (Reas, Masheb & Grilo, 2004). Individuals that seek professional medical assistance to lose weight could either be obese, overweight, within their ideal weight or even underweight. The body mass index (BMI) calculation is a tool used to categorise individuals into obese, overweight, ideal weight or underweight (WHO, no date). BMI is calculated by dividing a patient's weight by their height squared (WHO, no date)

Obese individuals have a BMI of above 30kg/m2 (WHO, 2018). Obesity is on the increase in South Africa (Kruger, *et al.*, 2005; Popkin,1994). Obesity is a risk factor for non-communicable diseases like type 2 diabetes, hypertension, cardiovascular disease, breathing complications, and depression (Vorster, 2002). Thus, obesity poses a major public health concern in South Africa (Kruger, *et al.,* 2005). The aetiology of obesity is multi factorial (Kharma, Aws & Tarakji, 2016). It includes physiological, psychological, genetic, environmental, economic and social factors (Kharma, *et al.*, 2016). Individuals that are overweight are defined as having a BMI of between 25kg/m2 and 29.9kg/m2 (WHO, 2018). Being overweight predisposes these individuals to chronic medical conditions- hypertension, high cholesterol, and diabetes (Bogers, *et al.*, 2007). Thus, overweight individuals have an increased risk of coronary heart disease(Bogers, *et al.*, 2007) . Obese and overweight individuals will often seek help to lose weight for health-related reasons and to improve their appearance (Reas, *et al.*, 2004)

Individuals that have a BMI between18.5kg/m2 and 24.9kg/m2 are within the ideal body weight and those that have a BMI of less than 18.5kg/m2 are underweight. Individuals within the ideal body weight may also want to lose a few kilograms for purely aesthetic reasons not for any health-related reasons. Underweight individuals who seek help to lose weight would be those individuals who have eating disorders like anorexia nervosa. Anorexia nervosa is a serious mental disorder, that is characterised by a low BMI (Zipfel, 2015). Anorexic individuals have an extreme phobia of weight gain and a distorted perception of body image which motivates them

to reduce calories consumed (Zipfel, 2015). Since the main aim of jaw wiring for weight loss is to reduce calories consumed, it would appeal to an anorexic individual.

The normative argument is based on the request for jaw wiring for weight loss by any of the above categories of BMI because, the dentist will be faced with an ethical dilemma irrespective of the BMI of the patient. The ethical dilemma is obvious when the patient is within the ideal BMI because the request for a purely aesthetic enhancement and not for any health-related reasons. The ethical dilemma in underweight individuals suffering from anorexia is also apparent because these disorders are neurological disorders, and the patients are typically underweight. At the first glance it may seem ethical to wire jaws for weight loss in obese and overweight individuals. This is because obese and overweight individuals will approach the dentist for assistance with weight loss for health-related reasons. However, the are no long-term health benefits when wiring jaws for weight loss in obese and overweight individuals. Although obese and overweight individuals can lose weight when the jaws are wired, the weight is regained when the wires are removed and the individuals return to eating (Mathus-Vliegen, *et al.*, 2007; Kharma, *et al.*, 2016). The aetiology of obesity is multifactorial, thus limiting food intake alone by jaw wiring is not considered adequate treatment. Limiting calories consumed forms only a small part of treating obesity. A multi-disciplinary team approach is necessary to effectively treat obesity. This would also apply to the treatment of overweight individuals. A dentist independently treating obese and overweight individuals by jaw wiring will not benefit these individuals in any way. Thus, the dentist is faced with an ethical dilemma when wiring jaws for weight loss in obese and overweight individuals, when the dentist is not part of a multi-disciplinary team.

2.4 The Request For Jaw Wiring For Weight Loss Is A Controversial Choice

A controversial choice is one that is irrational or one that goes against the interests of the individual (Savulescu, 2007). The best interests of the patient is discussed in the chapter on principlism- chapter four. An example of a controversial choice is one where the patient requests enhancement that carries risks (Savulescu, 2007). When a jaw is wired after being fractured, this is a treatment protocol to heal the fracture. The weight loss experienced because of the jaw wiring after a fracture is a side effect of the treatment and not the main purpose of the treatment. In the case of an individual with the ideal BMI who approaches the dentist requesting the procedure of jaw wiring for weight loss, the individual is not approaching the dentist for treatment, but rather for enhancement. This request for enhancement carries risks. These risks will be analyzed in chapter three. Jaw wiring for weight loss is a controversial choice because the individual is requesting an enhancement which carries risks (Savulescu, 2007). In the case of patients who are within their ideal weight and those below the ideal weight, the request is controversial not only because of the risks involved but also because the enhancement is for a worthless goal (Savulescu, 2007).

2.5 Conclusion

Jaw wiring is a treatment modality used to immobilise fractures of the jaws and for orthognathic surgery which causes weight loss because the patient is unable to eat solids. Jaw wiring raises an ethical dilemma when it is done with the main goal of weight loss. Dentists are approached with this request more frequently. This is due to

society becoming more image obsessed due to a greater exposure to social media. Jaw wiring for weight loss can be requested by individuals irrespective of their BMI hence this report analyses the ethics of jaw wiring in all patients, irrespective of BMI.

CHAPTER THREE- A UTILITARIAN PERSPECTIVE ON JAW WIRING FOR WEIGHT LOSS

3.1 Introduction

This chapter ethically evaluates jaw wiring for weight loss using utilitarianism. First the theory of utilitarianism is explianed, and its advantages and limitations. The theory of utilitarianism is then applied to the ethical question of jaw wiring for weight loss. The risks and benefits of the procedure of jaw wiring to the patient are explained. The net utility of the risks and benefits to the patients is calculated. The risks of jaw wiring are not only limited to the actual procedure on an individual. This procedure can cause other risks too. These are, the risks to the profession of dentistry, the dentist, and the implications on society at large. After analysing the risks and benefits to the patients, the risks of jaw wiring on the dental profession is critically evaluated, which is then followed by the risks to the dentist. Lastly, the implications that this procedure has for society is analysed. This chapter is concluded by critically evaluating whether jaw wiring for weight loss is ethical from a utilitarian viewpoint.

3.2 Utilitarianism

Jeremy Bentham (1748- 1832), John Stuart Mill (1806-1873) and Henry Sidgwick (1838-1900) are three great philosophers of the nineteenth century that developed and defended utilitarianism (Rachels and Rachels, 2019; Rosenstand, 2017). There are three essential elements that make up utilitarianism (Rachels and Rachels, 2019; Rosenstand, 2017).

The first element is that the morality of an action is determined only by its consequences (Rachels and Rachels, 2019; Rosenstand, 2017). Utilitarianism is a consequentialist theory which bases morality of an action on the outcome of an action only (Felzmann, 2017). If the outcome of an action is positive or beneficial, then the action would be morally correct. With utilitarianism, the end or the consequences justifies the means.

The second element of utilitarianism is that the value of the consequences of an action is assessed in terms of the overall amount happiness or pleasure (Felzmann, 2017). Maximising the overall happiness or pleasure is called the “Principle of Utility” (Felzmann, 2017; Mack, 2004). John Stuart Mill’s describes the principle of utility as: “The creed which accepts as the foundation of morals, Utility or the Greatest-Happiness Principle, holds that actions are right in proportion as they tend to promote happiness, wrong as they tend to produce the reverse of happiness. By happiness is intended pleasure, and the absence of pain; by unhappiness, pain and the privation of pleasure” (Rosenstand, 2017). Maximising happiness or utility is to produce the greatest total happiness over unhappiness (Mack, 2004).

The third element of utilitarianism is in assessing the total happiness caused to several people, each individual person holds the same value (Rachels and Rachels, 2019; Rosenstand, 2017). To explain further, no individual’s happiness holds greater value than another’s. Utilitarianism is an impartial theory which means that everyone is given equal consideration (Mack, 2004). According to utilitarianism an action is deemed as

moral when the outcome of an action leads to the greatest amount of benefit for the most individuals (Mack, 2004).

Utilitarianism is divided into act utilitarianism and rule utilitarianism (Mack, 2004). Act utilitarianism seeks to determine the act that produces the best outcomes for all affected by the action (Felzmann, 2017). In other words, it weighs up the consequence of a particular act (Mack, 2004). In act utilitarianism, the utility of individual actions is evaluated. Acts are evaluated on a case-by case basis. With act utilitarianism the morality of an action is only judged by the consequences of a particular action (Rachels and Rachels, 2019; Rosenstand, 2017). With rule utilitarianism, the right rule to adopt would be the one that leads to the best outcome (Mack, 2004). Rule utilitarianism is used to form policy and law that guide actions (Felzmann, 2017). Rule utilitarianism recommends following familiar ethical rules (Mack, 2004). My research report will be focused on rule utilitarianism, because it will analyse which rule dentists should follow to maximise utility.

Utilitarianism relies on calculating the net utility of an action (Mack, 2004). Since jaw wiring for weight loss is a clinical ethical issue, utility in this situation will centred around the benefits of the procedure (Felzmann, 2017; Mack, 2004). Maximising utility in this situation is maximising the benefits, whilst minimising the risks or harms. The risks and benefits of the procedure need to be calculated (Mack, 2004). The net utility will be calculated by subtracting the risks of the procedure from the benefits of the procedure. An action that has a negative risk to benefit balance would be unethical. This seems

good in theory but there are limitations to calculating utility. These limitations will be discussed below in the section on the criticism of utility.

3.3 Criticisms To The Theory Of Utilitarianism

Utilitarianism has been criticised because it only takes into consideration the consequences of an action (Rachels and Rachels, 2019; Rosenstand, 2017). Utilitarianism justifies doing something bad because one anticipates a good consequence. For this research report, wherein the consequences of a medical procedure is critically evaluated, this criticism is not relevant. The anticipated consequences in this clinical procedure is the risks and benefits of the procedure. By evaluating the consequences of the procedure, the dentist can arrive at a moral decision.

Another criticism against utilitarianism, is its demand for impartiality (Rachels and Rachels, 2019). Treating people as equals would require the utilitarian to abandon any special relationships. A stranger should be given the exact same consideration and concern that is given to an individual's child, parents, or any loved ones. For this research report, impartiality is not a concern. Everyone that presents for jaw wiring should be given the same consideration and should be treated equally. An individual who is obese or overweight, or underweight should be treated in the same way as an individual who has an ideal BMI. As mentioned in chapter two, the ethical dilemma exists irrespective of the individual's BMI. Treating each patient with the same consideration in this clinical ethical dilemma, is not a limiting factor.

The criticism that is most relevant this normative evaluation is that each individual’s view of happiness or pleasure is different from another individual. We all attach value or importance to different things. This makes it difficult to calculate the risk to benefit ratio in any situation (Mack, 2004). This leads to challenges when calculating the net utility. Savulescu (2007), has proposed a formula in determining the net utility (Savulescu, 2007). Savulescu (2007), proposes that utility can be calculated by: Probability (good outcome given that course taken) × Value (good outcome) + Probability (other outcomes given that course taken) × Value (other outcomes) (Savulescu, 2007). The problem with Savulescu’s formula is assigning an amount to value. This poses a problem is medical decision making, because each practitioner would assign a different amount to value. In respect to weighing up the risks and benefits to the patient, Savulescu’s formula is not used. The net utility is calculated by weighing up the risk and benefits of each consequence for the patient. Each consequence is discussed and the net utility calculated for each consequence. The net utility of each consequence is added up. This method is used to arrive at a moral conclusion with regards to risks and benefits of jaw wiring to the patient

3.4 Calculating Net Utility- Benefits And Risks Of Jaw Wiring To The Patient

3.4.1 Aspiration Of Vomitus

The most significant risk associated to jaw wiring is pulmonary aspiration of vomitus (Al-Dhubhani and Al-Tarawneh, 2015; Mathus-Vliegen, Nikkel & Brand, 2007). Since the patient’s jaw is wired, if the patient vomits, there is a chance that patient will not be able to expel the vomit from the mouth. This could lead to aspiration pneumonia

and asphyxiation (choking), which could be life threatening (Al-Dhubhani and Al-Tarawneh, 2015). This is of particular concern in patients that suffer from bulimia nervosa. Although aspiration and asphyxiation are the most challenging risks associated to jaw wiring, the risk of these happening is exceptionally low (Al-Dhubhani and Al-Tarawneh, 2015; Nwoga, Maduakor & Ndukuba, 2019). Patients can be taught to position themselves when vomiting to avoid pulmonary aspiration (Rodgers, *et al.*, 1977; Cannell, 1992). They can also be taught to cut the wires in an emergency (Nwoga, Maduakor & Ndukuba, 2019; Al-Dhubhani and Al-Tarawneh, 2015; Medriatta, 2016). The pain experienced and the risk of infection post jaw wiring for weight loss is much lower when compared to that experienced when the jaws are wired to treat fractures (Nwoga *et al.*, 2019). There is no need to prescribe antibiotics and analgesics which has the potential side effect of nausea and vomiting (Nwoga *et al.*, 2019). This reduces the risk of nausea and vomiting post jaw wiring for weight loss (Nwoga *et al.*, 2019). Even though the probability of pulmonary aspiration of vomitus is low, it is a life-threatening risk. There are no benefits of aspiration vomitus thus the net utility of the risks of jaw wiring is one in favour of the risks involved.

3.4.2 Jaw Wiring For The Treatment Of Obesity

The main advantage of jaw wiring for weight loss is for the treatment of obesity (Al-Dhubhani and Al-Tarawneh, 2015; Kharma, *et al.*, 2016). Jaw wiring for weight loss in obese patients is seen to be a favourable procedure because it's a simple, quick, economical procedure done under local anaesthetic (Al-Dhubhani and Al-Tarawneh, 2015; Kharma, *et al.*, 2016; Rodgers, *et al.*, 1977). Jaw wiring is less invasive when compared to gastric bypass surgery carried out on obese patients (Al-Dhubhani and

Al-Tarawneh, 2015; Kharma, *et al.*, 2016). Gastric bypass surgery must be done under general anaesthetic and it carries many risks for the patients (Vassimon, *et al.*, 2004). With jaw wiring to treat obesity the weight loss is rapid (Al-Dhubhani and Al-Tarawneh, 2015). The weight loss recorded from jaw wiring was the same that was recorded with gastric bypass surgery (Kharma, *et al.*, 2016; Rodgers *et al.*, 1977). Jaw wiring and a liquid diet can result in weight loss during the duration of the treatment (Cannell, 1992; Rodgers, *et al.*, 1977). However, once the wires are removed and the patients return to eating, the patients are at risk of regaining the weight lost, if they do not make the necessary lifestyle changes (Rodgers, *et al.*, 1977; Laskin,1974; Wood,1977; Garrow,1974; Mathus-Vliegen, *et al.*, 2007; Kharma, *et al.*, 2016). Jaw wiring in obese patients is an effective method to induce weight loss and obese patients need to be motivated to make lifestyle changes to maintain the weight loss and promote further weight loss when the wires are removed (Rodgers, *et al.*, 1977). When treating obesity, a long-term approach that involves the combination of change of diet, increasing physical activity, counselling the patient are all necessary (Mathus-Vliegen, *et al.*, 2007). Hence, while jaw wiring in obese patients is a safe and effective method to induce weight loss, jaw wiring on a patient that is not motivated to make lifestyle changes will result in the patient regaining the lost weight when the wires are removed (Kharma, *et al.*, 2016). The benefit of weight loss in obese patients is nullified because the patients are at risk of regaining the weight when the wires are removed. When weighing up the risks and benefits of jaw wiring in obese patients the net utility is therefore nil.

3.4.3 Physical Consequences Of Jaw Wiring

Patients who underwent jaw wiring for weight loss did not report any fatigue, hunger, light-headedness, and palpitations that are usually associated with going onto a lower calorie diet (Kharma, *et al.*, 2016). However, when jaw wiring for weight loss is used for a lengthy period it can lead to dizziness, anaemia, anxiety, and menstrual disturbances (Mathus-Vliegen, *et al.*, 2007; Behbehani, *et al.*, 2006). Thus, since jaw wiring has a negative effect on the general well-being of a patient it is a negative consequence and the net utility of the physical consequences of jaw wiring is one in favour of the risks of the procedure.

3.4.4 Consequences Of Jaw Wiring On The Oral Cavity

The teeth and the surrounding structures that have been wired can be damaged by jaw wiring (Al-Dhubhani and Al-Tarawneh, 2015). Gingival inflammation can lead to periodontal disease (Behbehani, *et al.*, 2006; Shephard, Townsend, & Goss, 1982). Obese patients have an increased risk of periodontal disease because obesity predisposes the patient to periodontal disease (Kharma, *et al.*, 2016; Mathus-Vliegen, *et al.*, 2007). The decalcification of teeth can occur (Al-Dhubhani and Al-Tarawneh, 2015). Mouth odour which is caused by the difficulty maintaining the oral hygiene with the wires and the brackets used to attach the wires (Mathus-Vliegen, *et al.*, 2007; Shephard, *et al.*, 1982). Patients have difficulty flossing their teeth in the area that has been wired. The wires can act as a plaque trap which can also lead to bad breath (Behbehani, *et al.*, 2006; Thor and Andersson, 2001). Temporomandibular joint dysfunction (TMD) could result from having the jaws wired (Al-Dhubhani and Al-Tarawneh, 2015; Shephard, *et al.*, 1982). However, the detrimental effects of jaw

wiring on the oral cavity are not permanent (Thor and Andersson, 2001) since all the gingival and periodontal effects of jaw wiring are reversed, and the gingival health is restored post removal of the wires (Mediratta, 2016; Behbehani, *et al.*, 2006). Even though the detrimental effects of jaw wiring on the oral cavity are not permanent, jaw wiring does have a negative consequence on the oral health of the patient for the duration of the procedure. Thus, the net utility with regards to the effects of jaw wiring on the oral cavity is one on favour of the risks involved.

3.4.5 Risks Of Not Losing Weight With Jaw Wiring

Patients find the liquid diet monotonous and even though the jaws are wired patients can still cheat (Rodgers, *et al.*, 1977). Patients have admitted to cheating by consuming high calorie fluids, liquidised meals and even squeezing solid food between their teeth (Rodgers, *et al.*, 1977). Over consumption of high calorie fluids like sugary beverages results in an increase in weight gain (Pyne and Macdonald, 2016). Squeezing solid food between the teeth when the jaws are wired, defeats the purpose of jaw wiring for weight loss because the patient will be consuming calories that the jaw wiring was meant to reduce.

Non-adherence with the procedure of jaw wiring is reported to add to the risk of patients not losing weight with jaw wiring (Behbehani, *et al.*, 2006; Cannell, 1992). In the research done by F, Behbehani et al. (2006), half of the patients intentionally broke or removed the wires themselves (Behbehani, *et al.*, 2006). Cannell et al. (1992), reported that non-adherence with the procedure of jaw wiring was caused by patients interfering with the wires (Cannell, 1992).

Consuming calories that jaw wiring was meant to limit and non-adherence with the procedure of jaw wiring can result in the patient not losing weight with jaw wiring. There is no benefit to balance out the risk of not losing weight with jaw wiring. This indicates that the net utility is one in favour of risks of the procedure to the patient.

3.4.6 Calculation Of The Net Utility Of Jaw Wiring For Weight Loss - Risks And Benefits To The Patients

The total net utility of jaw wiring for weight loss will be calculated using the discussion above. The net utility is calculated by the difference between the benefits and risks. The utility of the risk of aspiration of vomitus is one in favour of the risks involved. The utility of using jaw wiring to treat obesity is nil because the risks weigh out the benefits. The utility with regards to the physical consequences on the general health of the patient is one in favour of the risks. The utility of the oral effects of jaw wiring on weight loss is one in favour of the risks to the patient. The patient is at risk of not losing weight with jaw wiring and this increases the utility in favour of the risks involved. Since the risks are more than the benefits, there is a negative risk to benefit balance. With regards to the risks and benefits to the patients, it is immoral from a utilitarian perspective to wire jaws for weight loss.

The procedure of jaw wiring for weight is not only risky for the patient, but it also carries risks for the dentists, the profession of dentistry and the broader society. The balance

of this chapter will be dedicated to the risks to the profession of dentistry, the risks to the dentists and the negative implications that the procedure has on society.

3.5 Enhancement Versus Treatment - Implications For The Profession Of Dentistry

When jaws are wired post fracture, the main purpose of the jaw wiring is for treating the fracture. The weight loss that results from the jaw wiring is not intentional but, is considered a side effect of the treatment. The request for jaw wiring for weight loss in patients who have an ideal BMI is not a treatment for a jaw pathology but rather a request for enhancement because the patient wants to shed weight for aesthetic reasons. A common concern for enhancement, is that it goes beyond the scope of medicine (Bostrom and Sandberg, 2009). Enhancement is defined as an improvement that goes beyond treating pathology (Maslen, Faulmüller & Savulescu, 2014). Juengst (1998) defines enhancement as the term "usually used in bioethics to characterise interventions designed to improve human form or functioning beyond what is necessary to sustain or restore good health" (Juengst, 1998, p29).

Medicine is a profession that is concerned with treatment, curing and healing of individuals. The term treatment is used for care that restores health and function by fighting disease that causes sickness (Ahmad, 2010). Treatment is healthcare that has many benefits and few risks (Ahmad, 2010). It could be argued that vaccinations are not treatment because vaccinations are not used to treat or cure any illness (Chan and Harris, 2006). With vaccinations healthy individuals are given an intervention not for cure, but for prevention (Chan and Harris, 2006). Medical treatment is care that is not

only used to cure disease, but also care that is necessary to prevent disease or maintain health. A more comprehensive description of medical treatment is care that serves to cure illness and preserve health (Maslen, *et al*. 2014).

The distinction between treatment and enhancement is that treatment is centred around curing disease and maintaining health, while enhancement is focused on an improving an individual in the absence of illness (Maslen, *et al.*, 2014). The problem with health care professionals carrying out enhancements instead of treatment, causes the blurring of lines between treatment and enhancement. This can lead to altering of the perceptions of healthcare (Racine and Forlini, 2010). The relationship between the dentist and patient is based on trust and respect. When the perceptions of healthcare are altered, this leads to the erosion of trust between the patient and the dentist.

Dental professionalism is defined as a combination of vocation and improving health and function (Ahmad, 2010). Enhancement or cosmetic procedures lie outside professional care because these procedures enhance without necessarily having health or functional advantages (Ahmed, 2010). Dentists are oral health care professionals, who are specialist in diagnosing, treating, and preventing pathologies of the oral cavity. Dentists are professionals that enjoy social stature and respect due to the responsibilities that they carry towards their patients (Ahmed, 2010). These factors separate dentists from beauty therapists. By doing enhancement procedures, dentists demote themselves from the “status of a professional to that of a skilled trader” (Ahmed, 2010), like a beauty therapist. This can alter the trust that the community

places in them. Dentists are trusted professionals of the allied medical community and not beauty therapists. Furthermore, dentists doing enhancements, are acting in the interest of business and not in the interests of the patient and can therefore not claim the status of professionals (Ahmed, 2010). Even though dentistry and business are linked, the dentists' responsibility to the patients must always prevail over making a profit.

3.6. Risks To The Dentists

The profession of dentistry is based on trust between the dentist and the patient. This trust is based on the dentist providing care with a high standard of ethical conduct (HPCSA, 2016). As mentioned above, the profession of dentistry is based on the dentist providing the treatment for pathology and preventing diseases of the oral cavity with the highest ethical standards. The Health Professionals Council of South Africa (HPCSA) provides guidelines and rules for dentists with regards to practicing ethically (HPCSA, 2016). The major cause of complaints against a dentist is failure by the dentist to stick to the rules and guidelines of the profession and the failure to attain the anticipated treatment goals (Makwakwa and Motloba, 2019).

Professional misconduct is defined as "behaviour of a professional that is unsuitable, incompetent, disruptive, abusive, illegal or potentially dangerous to the patients and which compromises ethical standards" (*McGraw-Hill Concise Dictionary of Modern Medicine*, 2002). In most situations, the patient will first approach the dentist with the complaints when there is misconduct (Makwakwa and Motloba, 2019). The dentist and the patient work together to an amicable solution (Makwakwa and Motloba, 2019). In

a situation when the amicable solution is not reached, patients would report the dentist to the HPCSA or lodge a civil malpractice suit.

Malpractice is classified as a type of negligence (Hartshorne and van Zyl, 2020). Medical negligence is the failure of a healthcare professional to exercise the degree of skill and care of a reasonably competent practitioner in the field concerned (Hartshorne and van Zyl, 2020). Medical negligence occurs when a healthcare professional does not use acceptable skills and care when treating a patient, or when a healthcare professional does not protect a patient from unnecessary risk of harm and injury or when a healthcare professional breaches their duty of care by providing care which is substandard (Sykes, Evans & Dullabh, 2017). Malpractice in dentistry is when the dentist provides treatment which is below the acceptable care and this treatment results in serious personal injury to the patient (Sykes *et al.*, 2017). The increase of malpractice claims in South Africa and globally is partly because patients have become more informed and aware of their rights (Makwakwa and Motloba, 2019).

A statistical report by the ombudsman of the HPCSA done in 2007, reported that most complaints of misconduct that was lodged was directed against medical doctors and the second most complaints was lodged against dentists (Graaf, 2007). Dental misconduct complaints are either due to clinical dental procedures or non-clinical aspects (Makwakwa and Motloba, 2019). Examples of clinical dental claims are extractions of healthy teeth, damage to the lingual or inferior alveolar nerve during dental treatment, failed root canal treatment etc. Non-clinical misconduct complaints

include complaints of fraud, unprofessionalism and complaints of dental professionals practicing out of the scope of practice (Makwakwa and Motloba, 2019). The main complaints of misconduct against dentists in South Africa is substandard clinical treatment and fraud (Postma, *et al,* 2011). The underlying reason for substandard clinical treatment and fraud may be due financial gain and/or financial stress (Postma, *et al,* 2011). Most dentists that were reported to the HPCSA for misconduct were found guilty (Makwakwa and Motloba, 2019). The penalty for misconduct could either be suspension from clinical practice for a certain duration or payment of a fine (Makwakwa and Motloba, 2019).

When a dentist wires jaws for weight loss, the dentist could be found guilty of misconduct or the dentist could have a civil malpractice suit lodged against him or her. Complaints against dentists who wire jaws for weight loss could be either clinical or non-clinical in nature. Complaints which are non-clinical in nature could arise because even though jaw wiring falls within the scope of practice for dentists when treating fractures, the intended purpose of jaw wiring for weight loss falls out of the scope of practice. Clinical complaints could arise due to the damage caused to the teeth by the wires.

The are several consequences that dental misconduct complaints and malpractice suits have for the dentist. Dental malpractice claims are costly, laborious, result in loss of income, loss of reputation, emotional stress, harassment, sleeplessness, and embarrassment within society (Hartshorne and van Zyl, 2020).

3.7. Implications To Society

Jaw wiring for weight loss is an enhancement procedure that carries risks for patients. If dentists carry out enhancement procedures that carry risks in their practices, it will trivialise the risks of these procedures. Medical procedures that carry risks will carry the same weight as beauty treatments. This will be detrimental to the population because people will have easy access to risky enhancement procedures. Risks to health will be compromised for the opportunity to have the best "beach body". This will allow an already image obsessed society, the opportunity to easily fuel the obsession of the perfect body size. Individuals will have access to a quick fix to reduce weight, instead of making good long-term lifestyle changes to reduce weight. Being the ideal body size will trump risks to health and well-being.

3.8 Conclusion

Using the ethical theory of Utilitarianism, the morality of jaw wiring for weight loss has been evaluated. Utilitarianism is a consequentialist theory that is centred around weighing up the risks and benefits of a procedure. First the risks and benefits of jaw wiring to the patients was evaluated. The net utility calculation showed that the risks of the procedure outweighed the benefits to the patient. The risks of the procedure to the dental profession and the dentists were analysed. The analysis explained that jaw wiring will be detrimental to the profession of dentistry and to dentists. Jaw wiring had negative implications for society. From a utilitarian perspective, it is immoral for dentists to wire jaws for weight loss.

CHAPTER 4- PRINCIPLISM AND JAW WIRING FOR WEIGHT LOSS

4.1 Introduction

In this chapter, the ethical permissibility of wiring jaws for weight loss using principlism is normatively analysed. Although principlism has been criticized, it is popular and frequently used in the clinical environment because it is easier to practically apply it when compared to the other moral theories (McQuoid-Mason, 2012). In chapter three the risks of jaw wiring are analysed extensively and since the principle of non-maleficence gives the healthcare practitioner a duty to limit the risks to the patient, reference will be made to chapter three. The chapter starts with a brief history of principlism. This will be followed by a critical evaluation of the principles of autonomy, non-maleficence, beneficence, and justice. Each principle is analysed in context to the research question and relevance to dental practice. Thereafter, the concept of paternalism is reviewed and when paternalism may be justified in the ethical dilemma under discussion. Before concluding, the best interest of the patient vs the best interest of the dentist is debated. The chapter is concluded by arguing that it is ethical to over-ride the patient's autonomy when the principles of non-maleficence and beneficence are compromised.

4.2. History Of Principlism

In 1979, Tom Beauchamp and James Childress published the first edition of the book called The Principles of Biomedical Ethics. In this book, four principles, respect for autonomy, beneficence, non-maleficence, and justice are analysed. These four principles form a framework to guide moral decisions in the healthcare. They derived these principles from what they call "common morality" (Veatch, 2003). The central

concept of common morality is that all humans have an awareness of certain moral norms (Veatch, 2003). An individual who takes morality seriously will intuitively know when an action is morally wrong (Veatch, 2003).

Principles guide actions but, principles are not rules. Principles provide a more general or abstract way of guiding actions as opposed to rules. Beauchamp and Childress describe the difference between rules and principles as "rules are more specific in content and more restricted in scope than principles" (Beauchamp and Childress, 2013, pp14). Rules for clinical practice are derived from principles. For example, the rules of informed consent and confidentiality are derived from the principle of respect for autonomy.

Each of the four principles is weighted equally and no principle takes superiority over another principle (Beauchamp and Childress, 2013). These four principles are prima facie principles (Falahati, 2014). This means that the health care practitioner has a duty to uphold each principle when the principles do not conflict with each other (Falahati, 2014; Thomas and McCormick, 2018). In other words, the principles are binding, unless they are overridden by a stronger claim (Thomas and McCormick, 2018).

4.3. Respect For Autonomy

The principle of autonomy is derived from the work of Immanuel Kant. Kant's concept of autonomy is based on the rational human will (Komrad, 1983). For an individual to

be treated as an autonomous agent, there are three conditions that need to be fulfilled. Firstly, the individual must make his or her choice voluntarily (Beauchamp and Childress, 2013). To voluntarily decide, means that an individual should make a decision free from any form of coercion (Beauchamp and Childress, 2013). Secondly, the individual must be adequately informed about all the risks and benefits of the procedure (Beauchamp and Childress, 2013). This means that the individual can make an informed decision considering all the risks and benefits of the procedure. Thirdly, the individual must be competent to make decisions (Horton, 2002). Competency or capacity means that an individual can understand the fundamentals of an explanation, logically deliberate and decide (de Roubaix, 2011). A competent individual is one that has mental capacity to make decisions and the one who is legally allowed to make decisions (Falahati, 2014). Some examples of patients that do not have the mental capacity to make decisions are delusional, drug- dependent or mentally ill patients (Muller, 2009). Children that are not old enough to consent legally to treatment is an example of those that are legally not allowed to make decisions. Since informed consent is derived from the principle of respect for autonomy, the above three criteria form the foundation of informed consent.

Beauchamp and Childress (2013) propose guidelines for the health care professional which supports the principle of respect for autonomy (Beauchamp and Childress, 2013). These guidelines are that the healthcare professional should: tell the truth, respect the privacy of individuals, protect confidential information, obtain consent for any treatment carried out, and when asked help patients make important decisions (Beauchamp and Childress, 2013). To understand how a dentist can ethically help the

patients make important decisions, the terms coercion, persuasion, and manipulation need to be clarified.

Coercion is defined as an individual using an intentional threat of power or harm to control another individual (Beauchamp and Childress, 2013). In a clinical setting, the healthcare professional coerces a patient when the healthcare professional intentionally threatens to harm or forcefully control the patient's decision. Persuasion as defined by Beauchamp and Childress is "influence by appeal to reason" (Beauchamp and Childress, 2013). The healthcare professional will provide explanations to the patient for treatment. The patient is then influenced by the explanations that the healthcare professional give. The patient is not forced into making any decisions, and the final decision will be made by the patient based on the explanation given. Thus, persuasion forms a part of the informed consent process (Beauchamp and Childress, 2013). Persuasion does not limit the patient's autonomy (Horton, 2002). Another term used for persuasion is shared decision making. The dentist is equipped with medical knowledge and expertise whereas the patient has their own objectives and values (Savulescu, 1995). The contribution from both the patient and the dentist is necessary to arrive at the best treatment option (Savulescu, 1995). Manipulation refers to the process by which an individual is convinced to do whatever another individual wants (Beauchamp and Childress, 2013). In the healthcare setting, manipulation is when the healthcare professional convinces a patient to choose the treatment the healthcare professional wants the patient to have (Horton, 2002). In the dental setting, manipulation is when the dentist influences the patient to choose the treatment that the dentist is specially trained to do. The dentist

will be infringing on the patient's autonomy if the dentists coerces the patient or manipulates the patient.

Within the dental practice, autonomy demands that the patient should be made fully aware of any proposed treatment plans (Hartshorne and van Zyl, 2020). This means that the patient needs to be educated about all aspects of the treatment plan, which includes the sequence of the treatments, the expected outcomes, and the co-operation needed from the patient to sustain the desired outcomes (Hartshorne and van Zyl, 2020). Before finalizing any treatment plan, the dentist needs to discuss all the available treatment options with the patient, the risks and benefits of each option, the costs and prognosis of each option and consequences of no treatment (Hartshorne and van Zyl, 2020). Informed consent should be obtained by having formal consultation with a patient to explain the above. A signed informed consent document is of no significance if the patient does not understand what the treatment involves and the consequences of the treatment (Hartshorne and van Zyl, 2020). To avoid manipulation and coercion, a dentist must first listen to all the requests and wishes of the patients and then convey all the necessary information about treatment in a way that the patient understands (Hartshorne and van Zyl, 2020). The dentist's duty to refer a patient to another health care practitioner when the need arises is also part of the informed consent process (Hartshorne and van Zyl, 2020).

Informed consent is not only a moral obligation but also a legal obligation in many countries including in South Africa. But, the goal of the informed consent process, is to treat a patient as an autonomous being and to protect patients that are uninformed

about the specifics of dental treatment (Reid, 2017). As pointed out by Beauchamp and Childress, “from the moral viewpoint, informed consent has less to do with the liability of professionals as agents of disclosure and more to do with autonomous choices of patients” (Beauchamp and Childress, 2013, pp125). If the consent process is viewed as avoiding legal liability, instead of helping a patient understand the proposed treatment then the process of consent is not about respect for autonomy (Reid, 2017). This will demote informed consent from a moral duty to that of a formality (Reid, 2017).

The principle of informed consent will be applied to the clinical ethical dilemma of jaw wiring. Consider a mentally competent adult individual, requesting the dentist to wire his or her jaws for weight loss. The dentist explains all risks and benefits of jaw wiring for weight loss. The dentist also explains the other options available for weight loss and suggests referral to a physician. The dentist does not coerce or manipulate the patient. The patient understands all the risks and benefits of the procedure and voluntarily requests the procedure. This is an autonomous request because all the requisites for autonomy have been fulfilled in that this mentally competent adult patient who is voluntarily requesting the treatment without being coerced or manipulated by the dentist and who fully understands the risks and benefits of the treatment. Does the dentist need to heed to the autonomous request of the patient, even though the procedure is harmful for the patient? As mentioned above the four principles are prima facia. The principle of autonomy can be overridden when the principles conflict with each other. It is acceptable for the doctor to override the patient’s autonomy when the principles of beneficence, non-maleficence and justice are considered (McQuoid-Mason 2012). In addition, the dentist is also an autonomous agent and can therefore

refuse to carry out any procedure that causes more harm than good to the patient (Hoyle, 2013), or may be contrary to one's professional obligations, or would compromise their professional status (Ahmad, 2010).

4.4 Beneficence

In simple terms, the term beneficence means any act that promotes goodness (Beauchamp, 2019). It is derived from the qualities of humanity and altruism and posits the duty to do good (Beauchamp and Childress, 2013). This principle is also emphasized in the Hippocratic Oath as a fundamental principle in the ethics of healthcare. However, unlike the principle of non-maleficence that posits an obligation to avoid causing harm to others, beneficence affirms positive action instead of prohibition. Beneficence demands that the health care professional should not merely abstain from doing harm but instead also act in the patient's best interest (Beauchamp and Childress, 2013). Beneficence of the health care professional to a patient is referred by Beauchamp and Childress as 'specific' beneficence. Specific beneficence is an obligatory duty that is owed by the healthcare professional to the patient. The healthcare professional and in this case the dentists should act positively to further the patient's best interests by taking positive steps, rather than merely refraining from harm.

The principle of beneficence makes it necessary for the dentist to treat the patient with the main aim of benefitting or improving the patient's health (Hartshorne and van Zyl, 2020). The dentist must deliver dental care which is safe and appropriate to the clinical

situation (Hartshorne and van Zyl, 2020). In addition, the dentist must carry out treatment that is physically and emotionally in the patient's best interest. Dentists have an obligation to provide treatment of a high standard and are accountable for the consequences of any treatment carried out (Hartshorne and van Zyl, 2020). Beneficence should extend to the patient's general health, for health promotion and for preventative purposes (Hartshorne and van Zyl, 2020). Beneficence in dentistry encompasses the general health of the patient and is not confined to the effects of the treatment on the oral cavity only, because the patient is a complete biological being with inter-related systems. Therefore, the dentist should not do treatment that is beneficial to the mouth but detrimental to the other organs in the body (Hartshorne and van Zyl, 2020).

For a procedure to be beneficent it needs to fulfil three criteria (Muller, 2009) The procedure needs to be effective, the procedure needs to have a sustainable effect and there needs to be an absence of a less harmful procedure (Muller, 2009). With jaw wiring for weight loss, even though the patient may lose weight initially, the weight loss is not maintained when the wires are removed if the patient make the necessary lifestyle changes (Kharma *et al.*, 2016; Mathus-Vliegen *et al.*, 2007). This means that even though the procedure may be effective, the effects are not sustainable. There are also many less harmful weight loss options for the patients. There are alternative interventions that are easily accessible to patients that are useful for weight loss. These interventions include behavioural and lifestyle changes for example, maintaining a healthy calorie sufficient diet and following an exercise schedule. These interventions are predictable and have a sustainable long-term effect.

Jaw wiring for weight loss does not improve or benefits the patient's health in any way. The procedure of jaw wiring does not have a sustainable effect on weight loss and there are other less invasive interventions available for weight loss. Jaw wiring is not the appropriate treatment for weight loss because jaw wiring is a procedure that only limits solid food and does not address the other aspects necessary for weight loss. Beneficence places a duty on the dentist to refer patients who request jaw wiring for weight loss because jaw wiring for weight loss is not in the patient's best interests.

4.5. Non- Maleficence

Non- maleficence posits an obligation to abstain from causing any harm to an individual. Thus, it prohibits actions that causes harm to others (Horton, 2002). Non-maleficence highlights a foundational medical maxim - primum non-necere (Horton, 2002), which is emphasized in the Hippocratic Oath as, "first do no harm'. In the context of healthcare, the principle places a duty on the healthcare professional to refrain from causing harm to patients. In a clinical environment harm is generally construed as anything that would worsen the condition of the patient (Summers, and Morrison, 2009). Consequently, the principle implies that the healthcare professional has the responsibility to avoid acts that are expected to cause more harm than good in the discharge of their professional responsibilities (Garrett *et. al.*, 1993).

The principle of non-maleficence necessitates that the dentist updates himself or herself with knowledge that is most current and relevant (Hartshorne and van Zyl, 2020) through continuous professional development. A dentist whose knowledge is current will be aware of less invasive treatment options and the development of drugs with the least amount of side effects. A dentist who fails to keep their knowledge current and relevant fails to practice according to current standards and will fail to meet the standard of reasonable practice.

Non-maleficence demands that the dentist needs to be aware and conscious of their own limitations and refer if the clinical treatment is out of the scope of practice or beyond the expertise of the dentist (Hartshorne and van Zyl, 2020). A dentist that refers patients to another healthcare professional with a different expertise when the need arises or when the treatment that is required falls out of the scope of practice, will prevent unnecessary harm to the patient and the profession of dentistry.

The principle of non-maleficence places a duty on the dentist to limit risks to the patient (Hartshorne and van Zyl, 2020). Ultimately, the dentists must aim to decrease harms and increase benefits to the patient (Hartshorne and van Zyl, 2020). In practical terms, non-maleficence prescribes that any treatment that the dentists carries out should be safe and predictable, evidence based, cost effective and considerate of the patient's preferences (Hartshorne and van Zyl, 2020). The dentist must also provide a safe environment for the patient and prevent the patient from being exposed to any infectious materials or blood pathogens (Bruscino, 2012). Furthermore, dentists have the ethical duty to avoid interpersonal relationships with patients because these

relationships can impair the professional judgement of the dentist which could lead to harm (Bruscino, 2012).

With regards to jaw wiring for weight loss, this procedure does more harm than good. The risks outweigh the benefits to the patient, the dentist and society. The risks of jaw wiring for weight loss have extensively discussed in chapter three. The principle of non-maleficence demands that the dentist not carry out any procedures that has more risks than benefits. Therefore, in accord with this principle, dentists should not independently wire jaws for weight loss. When the aim of jaw wiring is for weight loss, the intended purpose of the treatment falls out of the scope of dental practice. In patients that are obese or overweight, a multi-disciplined team approach is necessary to treat these individuals. The aetiology of being overweight and obese is multi factorial and only limiting consumed calories by jaw wiring is inadequate treatment. The principle of non-maleficence thus guides dentists to be part of a multi-disciplinary team and not to treat patients requesting weight loss independently but rather to educate and refer them to appropriate professionals.

4.6 Justice

Historically Aristotle is linked to the principle of justice (Horton, 2002). Aristotle formulated the formal principle of equality which is expressed as “treat like cases as like” (Gosepath, 2011). The principle of equality demands that individuals that are equal must be treated equally (Gosepath, 2011). Morally the principle of equality

highlights that moral judgements should be universal and impartial (Gosepath, 2011). Therefore, the principle of justice demands that equals be treated equally (Horton, 2002).

The principle of justice compels the healthcare practitioner to respect the patient's rights and treat the patient with fairness (Hartshorne and van Zyl, 2020). Dentists should treat patients fairly by being professional and being clear and truthful about the dental services offered. The dentist should be truthful about all the available treatment options and about all the risks and benefits of the different treatment options. The dentist must be truthful about any difficulties experienced during treatment and about complications that have occurred during treatment. Treating a patient with fairness means that a dentist should not discriminate against any patients, irrespective of race, religion, culture, occupation, gender, and education. The dentist should in no way exploit or take advantage of any patient. Treating a patient fairly means that the dentist should allow the patient to make free and informed treatment choices.

Justice is categorized into legal justice and distributive justice (Summers, and Morrison, 2009). Legal justice demands that healthcare professionals are obliged to obey the law just like every other citizen of the country. Legal justice is critically evaluated in chapter five. Distributive justice is focused on the allocation of resources (Summers, and Morrison, 2009). Distributive justice motivates for the fair distribution of social benefits and burdens (Horton, 2002). The oral health care system in South Africa is a two-tiered health care system which is categorised into an expensive and exclusive private sector and an overburdened under-resourced public sector (Motloba,

Makwakwa & Machete, 2019). The two-tiered health system supports an unfair distribution of resources (Motloba, *et al.,* 2019). The disparities between the private and public health sector are fuelled by significant disparities in socioeconomic resources, location, social position, discrimination, and marginalisation (Motloba, *et al.,* 2019). A uniformed framework to oral healthcare is necessary to allow for an even distribution of resources (Motloba, *et al.,* 2019). Distributive justice is not only focused on the allocation of resources but also includes reasonable compensation to the healthcare providers and the healthcare provider providing a fair range of services (Dharamsi and MacEntee2002).

Jaw wiring for weight loss in patients with the ideal BMI is an enhancement procedure and not a therapeutic procedure. The distinction between treatment and enhancement is that treatment is centred around curing disease and maintaining health, while enhancement is focused on an improving an individual in the absence of illness (Maslen, *et al.*, 2014). Enhancement procedures are not considered healthcare. It would therefore be unethical for resources to be allocated to enhancement procedures when these resources could be better utilised on healthcare instead.

4.7. Paternalism

To explore the morality of jaw wiring for weight loss using principlism, it is necessary to explain paternalism. Paternalism comes from the Latin word *pater* which means father. According to Gerald Dworkin paternalism is defined as, “the interference of a

state or an individual with another person, against their will, and defended or motivated by a claim that the person interfered with will be better off or protected from harm" (Dworkin, 2020). Paternalism is thus justified because it is based on the interests of the individual being interfered with (Dworkin, 2020). Medical paternalism is when a healthcare professional overrides the requests and wishes of an individual to protect the individual from harm or to benefit the individual (Garret, *et al.*, 1993). Therefore, medical paternalism occurs when the principles of non-maleficence and/or beneficence trump autonomy.

Paternalism can be divided into strong paternalism and weak paternalism. Weak paternalism is when the healthcare professional acts for the benefit of an incompetent patient (Garret, *et al.*, 1993). An example of weak paternalism in dentistry is when the dentist treats tooth ache in a mentally incompetent patient who refuses dental treatment. Weak paternalism is easily justified because the healthcare professional is protecting a compromised patient from harm (Garret, *et al.*, 1993,).

Strong paternalism is when the healthcare professional overrides a competent patient's autonomous request (Garret, *et al.*, 1993). In certain circumstances strong paternalism is justified in healthcare (Beauchamp and Childress, 2013). These situations are when a patient is at risk of a significant avoidable harm, the paternalistic action of the healthcare professional will most likely stop the harm, when the expected benefits of the paternalistic action outweighs the risks, and when the least autonomy restrictive way that will maximize the benefits and reduce the risks is chosen (Beauchamp and Childress, 2013). In addition, a healthcare professional has the right to refuse to carry out any requested treatment, if the healthcare professional feels that

carrying out the requested treatment would compromise their professional status (Ahmad, 2010).

With regards to jaw wiring for weight loss the patient is making an autonomous request. However, the autonomous request infringes on the principles of non-maleficence and beneficence. Autonomy is not absolute, and the principles of non-maleficence and beneficence trump the principle of respect for autonomy. This is an example of medical paternalism. It is more specifically strong paternalism because the dentist is overriding the autonomous requests of a competent patient (Garret, *et al.*, 1993). The next step would be to ascertain whether the dentist is justified in being paternalistic. With jaw wiring for weight loss, the patient is at risk of avoidable harm. The paternalistic action of the dentist refusing to wire the jaws, will most likely stop the harm. The expected benefits of the dentist refusing to wire the jaws outweighs the risks. Therefore, in this situation strong paternalism is justified.

4.8. Who Decides What Is The Patient's Best Interest?

Paternalism in justified when a patient requests jaw wiring for weight loss because by being paternalistic the dentist will be acting in the patient's best interest. However, the dentist's opinion and patient's opinion of what is regarded as best interest could be quite different. The dentist is of the opinion that jaw wiring for weight loss is not in the best interest of the patient because of the risks involved. The patient could believe the jaw wiring is in their best interest because the weight loss will improve the quality of their life. It could be argued that the best interest of the patient could be a biased view

held by the dentist (Sandman, Granger, Ekman & Munthe, 2012) A counterargument to this is that the best interest of the patient is unbiased, when this opinion is the established opinion of the professional community that the dentist belongs to (Sandman *et al.*, 2012) . This will ensure that the best interests of the patient are not based on the private interests of the dentists but rather on the accepted values held by the professional dental community (Sandman *et al.*, 2012).

4. 9. Conclusion

The normative analysis of jaw wiring for weight loss using the moral theory of principlism, proves that dentists are justified in overriding a patient's autonomous request. The principles of non-maleficence and beneficence confirm that jaw wiring for weight loss is not in the patient's best interest. Dentists can be paternalistic and refuse to wire the patients jaws for weight loss, because it is not in the patient's best interest. In conclusion, the dentist is justified in overriding the patient's autonomy when the patient's requests will result in the dentist carrying out treatment which is not in the patient's best interest.

CHAPTER 5- A DEONTOLOGICAL PERSPECTIVE TO JAW WIRING FOR WEIGHT LOSS

5.1 Introduction

This chapter critically is used to critically evaluate whether jaw wiring for weight loss falls within the dentist's scope of practice using the ethical theory of deontology. Since deontology is based on the duties and obligations of an individual, it is argued that jaw wiring falls out of the scope of dental practice with reference to the ethical duties that has been outlined by the HPCSA and the legal duties outlined by the South African Law. This chapter is started with a background of the four deontological theories, which is followed by criticisms to the theory. The difference between ethics and law is then briefly explained. This is followed by the duties that dentists have to their patients and to themselves and how these duties influence the professional relationship between the dentist and the patient and how these duties in turn influence the scope of dental practice. The next section on legal duties first gives clarity to the concepts of professional misconduct and malpractice. Thereafter, the scope of dental practice is analysed from a legal perspective using the Health Professions Act (HPA) No. 56 of 1974. The ethical rules of conduct guide dentists to practice within the prescribed scope of practice. Finally, that a dentist who independently wires jaws for weight loss is at risk of being charged with culpable homicide. The chapter is concluded by arguing that using the moral theory of deontology, wiring of jaws for weight loss falls out of the scope of dental practice

5.2. Background To Deontology

Deontology is derived from the Greek word 'deon' which means that which is obligatory (Rosenstand, 2017). Deontology is a philosophical theory which bases morality on foundational principles of obligation and duty (Fieser, no date). In contrast to utilitarianism, deontology is not focused on the consequences of action, instead it is focussed on the moral duty of an action, in other words what ought to be done. Deontology can be subdivided broadly into four duty theories (Fieser, no date).

The first deontological theory was formulated in the 17th century by Samuel Pufendorf, a German Philosopher (Fieser, no date). He divided duties into three different groups namely, duties to God, duties to oneself and duties to others (Fieser, no date). He posits that duties to God are a theoretical duty to know the existence and nature of God, and a practical duty to both inwardly and outwardly worship God (Fieser, no date). Duties to oneself include duties to the soul and duties to the body (Fieser, no date). Duties to the soul is the duty to develop skills and talents and duties to the body is the duty not to harm oneself or commit suicide (Fieser, no date). Duties to others is subdivided into absolute duties and conditional duties (Fieser, no date). Absolute duties are those that are always binding and includes, treating people as equals, promoting the good of others and not mistreating others (Fieser, no date). Conditional duties arise due to contracts between people and is based on the duty of upholding a promise (Fieser, no date).

The second deontological theory is the rights-based theory. In simple terms a right is defined as "a justified claim against another person's behaviour" (Fieser, no date). The difference between a moral right and legal right is that a legal right exists as part of a jurisdiction. The rights-based theory is based on moral rights which has four elements.

Firstly, rights are natural when they are not established by governments (Fieser, no date). Rights are universal when they are the same irrespective of the country (Fieser, no date). Thirdly rights are equal when are the same for all individuals, regardless of the gender, race, religion, or handicap (Fieser, no date). Fourthly rights are inherent and non-transferable which means that rights cannot be handed over to another individual (Fieser, no date). Rights and duties are interlinked because the rights of one individual implies the duty of another individual (Fieser, no date).

The third deontological theory is Kant's theory. Kantian ethics is founded on the principle that rational persons are worthy of basic respect simply by virtue of being humans (Rachels and Rachels, 2019). Kant proposes that all our duties are based on one main principle- the Categorical Imperative (Rachels and Rachels, 2019). He argues that the categorical imperative makes an action compulsory irrespective of an individual's wishes (Fieser, no date). Kant gives a few versions of the categorical imperative, but I will discuss the version that is most relevant in this context. The version of the categorical imperative that is most relevant to this context is called the formula of humanity. According to Kant, the formula of humanity is "act in such a way that you treat humanity, whether in your own person or in that of another, always as an end and never as a means only" (Rachels and Rachels, 2019, p146). By treating someone as an end, entails treating that person with respect, promoting their welfare and avoid harming them (Rachels and Rachels, 2019). Treating an individual as a means is to use them as an instrument to achieve something else. Thus, individuals should not be deceived, influenced, or intimidated into doing anything. Kant's formula of humanity does not object to treating someone as a means, rather it allows treating someone as a means only when they are also treated as an end (Rachels and

Rachels, 2019). Kant argues that the categorical imperative is unconditional- it is always binding for everyone. (Rachels and Rachels, 2019; Rosenstand, 2017).

The fourth deontological theory is Ross's prima facie duties. This theory is founded by the British Philosopher W. D. Ross in the nineteenth century. He based his moral theory on a list of seven prima facie duties. These duties are not absolute and can be over-ridden by other duties when the duties conflict with each other. According to Ross, "these duties are a part of the fundamental nature of the universe" (Fieser, no date). These duties are fidelity (to keep promises), beneficence (to do good to others), reparation (to make amends when we have harmed someone), self-improvement (to improve our own health knowledge and well-being), gratitude (to be appreciative), non-maleficence (to not harm or injure others) and justice (to be fair) (Fieser, no date).

5.3. Criticisms Of Deontological Theories

Samuel Pufendorf's version of deontology can be criticised because like the other deontological theories, it considers an action that has bad consequences as moral if the duty has been adhered to. This version of deontology can also be criticised because it does not take into account any duties to non-human entities and duties to the environment.

The rights-based theory is criticized because it is viewed as a selfish and individualistic theory (Kapoor, 2019). It is selfish because it is only concerned about the human being and it is individualistic in that it only considers the individual (Kapoor, 2019). Rights

based theory is also criticised because rights are not a fundamental principle, rather rights are a second order principle. Rights are justified by using other moral principles and therefore cannot stand on their own.

Kant's moral ought, that is unconditional poses a few problems. Kant's view on absolute rules, is not always practical because a moral duty which is uncompromising could be disastrous (Rachels and Rachels, 2019). Absolute moral rules create conflict when a person is faced with two conflicting duties (Rachels and Rachels, 2019). For example, the absolute moral rule of always telling the truth can conflict with the absolute moral rule of protecting a person from harm when telling the truth will result in harming a person (Rachels and Rachels, 2019). Kant's idea of moral obligations towards rational human being raises the question about our moral obligations to human beings who are not considered rational (Rachels and Rachels, 2019). Since Kant's moral obligations are for rational human beings only, it would mean that there are no moral obligations to those individuals who are not rational for example, those that have mental disabilities, those with cognitive defects, those who are mentally compromised due to drug abuse and infants. In addition, Kant's moral obligation to rational human beings only, ignores the moral obligation that we have to non- human entities and the environment (Rosenstand, 2017).

Ross's theory has been criticised because Ross claims that an individual has an intuitive ability to decide what is morally right or wrong (Simpson, no date). This intuitive ability guides an individual's decision of which prima facie duty overrides another duty when faced with a moral dilemma (Simpson, no date). Intuition is not a

reliable basis for moral decision making because it varies from individual to individual, and it is subjective to an individual's live experiences and culture (Philip, 2020).

5.4.1 The Relationship Between Ethics And Law

As discussed above deontology is a philosophical theory which bases morality on foundational principles of obligation and duty (Fieser, no date). Hence the duties and obligations that is laid down by the HPCSA and the NHA will be analysed within the context of the topic. Since this section is focused on the moral duties, legal duties and rights of the dentist and patient, it is necessary to explore the relationship between ethics and law. Ethics and law are similar in that they both guide actions. Law is different from ethics in that law is enforced by government and is described as the minimum standard of ethics which guides actions (Van der Reyden, 2008). The law leaves no room for choice and non-compliance with the law carries penalties (Van der Reyden, 2008). Ethics on the other hand comes from an individual's moral sense and it gives an individual options that guides moral decision making (Van der Reyden, 2008). While law dictates the actions that we are obliged to follow ethics guides the actions that we ought to do (Van der Reyden, 2008).

Since deontology is based on the duties and obligations of an individual, it is argued that jaw wiring falls out of the scope of dental practice when the dentist independently wires a patient's jaws, with reference to the ethical duties that has been outlined by the Health Professionals Council of South Africa (HPCSA) and the legal duties outlined by the South African Law. The HPCSA, is established according to Section 2(1) of the Health Professions Act (HPA) No. 56 of 1974 (HPCSA, 2020). The HPCSA is

established to regulate the education, training and registration of health care professionals that have been registered under the HPA (HPCSA, 2020). The HPCSA ensures that the health care professionals uphold and preserve ethical and professional standards (HPCSA, 2020). The HPCSA investigates complaints lodged against health care professionals and takes the necessary disciplinary action against any health care professional when they do not comply with the ethical and professional standards warranted from their professions (HPCSA, 2020). Thus, the HPCSA is established to guide health care professionals and to protect the public (HPCSA, 2020).

5.4.2 Duties Of Dentists

The HPCSA gives ethical guidelines to healthcare professionals which guide the practicing of healthcare professionals in South Africa. The HPCSA defines duty as "an obligation to do or refrain from doing something" (HPCSA, 2016). To have a duty to another individual means having an obligation to someone (HPCSA, 2016). Duties and rights are interlinked because the duty of one person implies the rights of another person. Duties are what I owe to others and rights are what others owe to me (HPCSA, 2016). Duties and rights can be moral or legal or both and extend to all aspects of our lives. Healthcare professionals have moral and legal duties to their patients by virtue of being qualified and licenced professionals trained within their respective fields (HPCSA, 2016). Legal duties are duties that are imposed by the law that compel healthcare professionals to adhere to certain procedures and to use particular skill and care when treating patients (HPCSA, 2016). Legal duties are imposed by the National

Health Act (NHA) (Act 61 of 2003) or the Health Professions Act (HPA) of 1974 and by common law (HPCSA, 2016).

Dentists have duties to their patients and to themselves. The list of duties to the patient are extensive and for purposes of this research report , the duties that are directly relevant to wiring jaws for weight loss are reviewed. The primary duty of a health care professional is to always act in the best interest of the patient (HPCSA, 2016). With jaw wiring for weight loss, the weight loss is temporary and there are risks of aspiration vomitus, damage to the teeth and surrounding structures and risks to the general health of the patient and hence it is not in the patient's best interest. To act in the patient's best interest dentists should avoid abusing the position of power they have over their patients (HPCSA, 2016). Dentists have a duty to provide the patient with all the relevant information with regards to jaw wiring for weight loss in a manner that the patient can best understand (HPCSA, 2016). The information must be given in a language that the patient understands and in such a way that takes into consideration the patients level of knowledge and values (HPCSA, 2016). Dentists have a duty to avoid over-servicing their patients which makes it necessary for the dentists to avoid treatment that does not serve the needs of the patient (HPCSA, 2016). Jaw wiring does not serve the needs of patients that are within the ideal BMI or with a low BMI and a dentist will be over-servicing these patients when wiring jaws for weight loss.

The dentist's duties to themselves requires that they maintain and improve their professional knowledge and skills through continuous professional development programs (HPCSA, 2016). The dentist also has a to duty to acknowledge the limits of

their competence and knowledge and to refer a patient when the treatment the patient requires falls out of the scope of dental practice (HPCSA, 2016). Dentists are trained to wire jaws, but dentists are not adequately trained to treat, or monitor weight loss (Kharma, *et al.*, 2016). The dentist has a duty not to independently treat patients who require weight loss. The dentist can participate in the weight loss treatment of obese and overweight patients only when the dentist is a member of a multi-disciplinary team that is made up of physicians, psychologists, dieticians, bio-kineticists and physiotherapists (Kharma, *et al.*, 2016). When the dentist is part of this team of professionals, the dentist's role is not to diagnose or to follow the progress of the patient's weight loss, but the dentist will be responsible for the aspects of treatment that falls within the scope of dentistry (Kharma, *et al.*, 2016). If jaw wiring is proposed to be part of the integrated treatment plan that has been agreed upon by the multi-disciplinary team then the dentist will be responsible for ensuring that the patient has good oral hygiene and that there is no disease or dysfunction within the oral cavity that is caused by the wiring (Kharma, *et al.*, 2016).

5.4.3 Legal Duties

5.4.3.1 Malpractice And Professional Misconduct

The HPA (1974) defines unprofessional conduct or professional misconduct as "improper or disgraceful or dishonourable or unworthy conduct or conduct which, when regard is had to the profession of a person who is registered in terms of this Act, is improper or disgraceful or dishonourable or unworthy". When a patient feels that the dentist has behaved unprofessionally the patient can either report the dentist to the HPCSA or lodge a civil malpractice claim. Section 41 of HPA of 1974 states that "a professional board shall have power to institute an inquiry into any complaint, charge

or allegation of unprofessional conduct against any person registered under this act, and, on finding such person guilty of such conduct, to impose any of the penalties prescribed in section 42". Thus, the HPCSA has the power to investigate any complaint of professional misconduct and impose a penalty on the healthcare professional that is found guilty of misconduct. Section 42, of the HPA of 1974, states that the healthcare professional found guilty of misconduct will be liable to one or more of the following penalties "a caution or a reprimand or a reprimand and a caution, suspension for a specified period from practising or performing acts specially pertaining to his or her profession, removal of his or her name from the register, a prescribed fine, a compulsory period of professional service as may be determined by the professional board, or the payment of the costs of the proceedings or a restitution or both" .

Malpractice is classified as a type of negligence and medical negligence is the failure of a healthcare professional to exercise the degree of skill and care of a reasonably competent practitioner in the field concerned (Hartshorne and van Zyl, 2020). Malpractice in dentistry is when the dentist provides treatment which is below the acceptable care and this treatment results in serious personal injury to the patient (Sykes, *et al.*, 2017). If a patient is injured by a dentist and wishes to lodge a civil malpractice claim, then it is necessary for four conditions to be proven within a court of law. It needs to be proven that the dentist is a licensed professional, that the dentist neglected their duty through poor treatment and errors, that the mistake resulted in harm and that the harm caused damages (Sykes, *et al.*, 2017). Harm could either be directly related to the patient's health and well-being or it could also include other

aspects such as loss of time, loss of earnings, psychological trauma, or incurring additional medical or dental expenses (Sykes, *et al.*, 2017).

There are two main reasons for the increase in professional misconduct claims in South Africa (Makwakwa and Motloba, 2019). Firstly, patients have become more knowledgeable and aware about their rights, treatments and expected outcomes (Makwakwa and Motloba, 2019). Patient mostly complain when they are dissatisfied with the treatment and they are not thoroughly informed about the complications of treatment (Postma, *et al,* 2011). Secondly, the increase in professional misconduct claims is due to financial factors. These are due to the reduction of dental benefits by medical aid schemes, closure or consolidation of medical aid schemes, growing costs of running and maintaining a dental practice, and competition in a declining economic market (Makwakwa and Motloba, 2019). Postma et al. (2011) concluded that dentists that are most at risk of professional misconduct complaints were those that worked in busy practices that charged minimal rates which are determined by medical aid schemes (Postma, *et al,* 2011). Therefore, professional misconduct complaints against dentists are not only due to incompetence or negligence of the dentist but also due to financial factors (Postma, *et al,* 2011).

5.4.3.2 Scope Of Practice From A Legal Perspective

According to Kharma et al. 2016, if a dentist independently wires a patient's jaw for weight loss, the dentist will be at risk of professional misconduct or a malpractice claim (Kharma, *et al.*, 2016).

Regulation 238 of the HPA (1974) which was finalised on the 6 March 2009 defines the scope of practice for dentists. Regulation 238 (2009), of the HPA (1974) states with regards to dentist's scope of practice that, "clinical examinations are limited to the physical clinical examination of the oral maxillofacial and related structures of a person". Regulation 238 (2009) of the HPA (1974), further states that the dentist's scope is limited to "diagnosis of diseases, injuries and conditions of the oral, maxillofacial and related structures, including determining the relevance of systemic conditions, and/or giving advice on such conditions''. It is clear from the above that dentists are oral health practitioners and are restricted to examination and diagnosis of the oral cavity and related structures only. The dentist is not allowed to diagnose or treat systemic conditions, but the dentist is allowed to determine the effects that systemic conditions have on oral health and advise the patient with regards to the oral effects of the systemic condition. Systemic conditions are those conditions which affect the whole body and not an isolated organ or part of the body. Obesity, the overweight condition, and eating disorders are classified as systemic conditions, because it affects the whole body. Thus, according to Regulation 238 (2009) of HPA (1974), the dentist is not allowed to diagnose and treat obesity, the overweight condition and eating disorders.

With regards to clinical procedures, Regulation 238 (2009) of the HPA (1974), states that dentists can, "perform dental procedures and/or prescribing medicines aimed at managing the oral health of a patient, including prevention, treatment, and rehabilitation". Regulation 238 (2009) of the HPA (1974), further states that dentists can "perform any procedure on a patient aimed at fitting or supplying a dental

prosthesis or appliance”. Dentists manage the oral health of patients and dentists can fit appliances and prosthesis within the oral cavity. It could be argued that a dentist is allowed to wire jaws for weight loss because jaw wiring is a procedure whereby the dentist is fitting an appliance within the oral cavity. A counter argument to this is that Regulation 238 (2009) of HPA (1974) states that the dentist is only allowed to determine the relevance of systemic conditions on the oral health of a patient. Therefore, it can be deduced that the dentist is allowed to wire jaws when the purpose of the treatment is for healing of a jaw fracture because a dentist is allowed to diagnose and treat fractures of the jaws. But the dentist is not allowed to independently wire jaws for weight loss because the dentist is not allowed to treat systemic conditions. The dentist can participate in treating obesity when the dentist forms part of a multi-disciplinary team because, the dentist will not be responsible for diagnosing and independently treating a systemic condition (Kharma, *et al.*, 2016). The diagnosis of obesity will be made by the physician and the dentist will only provide the dental services as part of integrated treatment plan (Kharma, *et al.*, 2016).

As for aesthetic procedures, Regulation 238 (2009) of HPA (1974), states that dental practice is limited to, “performing any aesthetic or cosmetic procedure on a patient pertaining to the oral and peri-oral area. Dentists can do aesthetic work on teeth, gingiva, and any intra-oral area and peri oral structures. Thus, the dentist is legally not allowed to assist the patient that is within the ideal BMI with weight loss because the patient with the ideal BMI requests jaw wiring for purely aesthetic reasons and the dentist is only allowed to carry out aesthetic procedures within the oral cavity and surrounding peri-oral area.

5.4.4 Ethical Rules Of Conduct For Healthcare Practitioner

The Ethical Rules of Conduct for Healthcare Professionals which is registered under the HPA defines what sort of behaviour is necessary for a healthcare practitioner to be considered professional. Ethical rule 21 (2006), of the HPA (1974) states that "a practitioner shall perform, except in an emergency, only a professional act for which he or she is adequately educated, trained and sufficiently experienced". Since dentists are not adequately educated, trained, and experienced to treat any metabolic disorders, a dentist who independently wires jaws for weight loss is not adhering to ethical rule 21 of The Ethical Rules of Conduct for Healthcare Professionals. Not adhering to ethical rules of conduct is professional misconduct and thus, if a dentist independently wires a patient's jaws for weight loss can lead to an inquiry of professional misconduct and if the dentist is found guilty the dentist will be subjected to a penalty.

5.4.5 Culpable Homicide

According to South African law, if a patient dies due to the negligence of the healthcare professional, the healthcare professional can be charged with culpable homicide (McQuoid-Mason 2012). The most significant risk associated with jaw wiring for weight loss is the risk aspiration of vomitus. Aspiration vomitus can lead to the death of a patient who has jaw wired for weight loss (Al-Dhubhani & Al-Tarawneh 2015; Mathus-Vliegen, *et al*., 2007). If a patient dies from aspiration of vomitus after a dentist independently wired a patients jaw for weight loss, the dentist can be charged with culpable homicide (McQuoid-Mason 2012). There are also studies showing that there is an increased mortality rate associated with intentional weight loss in obese patients

(Simonsen, *et al*., 2008; Williamson, *et al*., 1999). Jaw wiring for weight loss is a means of intentional weight loss, which means there is a risk that an obese patient can die due to intentional weight loss caused by jaw wiring (Simonsen, *et al*., 2008; Williamson, *et al*., 1999). If this happens a dentist can be charged with culpable homicide. The dentist is justified in overriding the patient's autonomy when the patient's requests will result in the dentist carrying out treatment which is unethical and illegal (McQuoid-Mason 2012).

5.5. Conclusion

The moral theory of deontology is used to critically analyse if jaw wiring for weight loss falls within the scope of dental practice. Since deontology is concerned with duty and obligation, it is argued that both the ethical and legal duties confirm that when the dentist independently wires jaw for weight loss this treatment falls out of the scope of dental practice because the dentist is not trained to treat metabolic diseases. As per guidelines formulated by the HPCSA, the dentist has ethical duties to themselves and their patients. I used Regulation 238 (2009) of the HPA (1974) which defines scope of practice for dentists to argue that when a dentist independently wires jaws for weight loss then this treatment falls out of the scope of dental practice. When a dentist forms part of a multi-disciplinary team treating an obese patient, and if jaw wiring is part of the treatment plan then jaw wiring for weight loss falls within the scope of dental practice. A dentist that independently wires jaws for weight loss does not adhere to ethical rule 21 (2006) of the HPA (1974). A dentist that independently wires jaws for weight loss, is at risk of being charged with professional misconduct, medical malpractice, or culpable homicide.

CHAPTER 6-CONCLUSION

Jaw wiring is a procedure used by oral health care professionals to treat fractures of the jaws but when jaw wiring is used for weight loss it becomes an ethically questionable treatment. Jaw wiring for weight loss in a patient with an ideal BMI is an enhancement procedure that carries no therapeutic benefits. Individuals have become more obsessed with image which has led to an increase in requests for enhancement procedures. Dentists are faced with an ethical dilemma because jaw wiring for weight loss is not in the patient's best interest and when the dentist independently wires jaws for weight loss then this procedure falls put of the scope of dental practice because a dentist is not trained to independently treat metabolic disorders.

Utilitarianism is a consequentialist theory where the morality of an action is based on calculating the net utility of an action. Since jaw wiring is a clinical ethical dilemma, the net utility of an action is calculated by weighing up the risks and benefits of the procedure. When weighing up the risks and benefits of jaw wiring for weight loss for the patient, the risks of the procedure outweighs the benefits. Jaw wiring for weight loss is not only risky for the patient, but also has risks for the profession of dentistry, for dentists and for society. Taking into consideration all these risks, from a utilitarian perspective jaw wiring for weight loss is an unethical procedure.

The moral theory of principlism is frequently used in clinical situations because it is easy to practically apply to clinical situations. The four principles, respect for autonomy, non-maleficence, beneficence, and justice are prima facie principles which means that all the principles are binding if they do not conflict with each other. When

the principles conflict with each other, the principle that has a stronger claim can trump the other principles. The dentist is faced with an ethical dilemma when a competent patient makes an autonomous request to the dentist to wire their jaws for weight loss because when taking into consideration the principles of non-maleficence, beneficence and justice jaw wiring for weight loss is not in the best interest of the patient. Thus, ethically the dentist can act paternalistically and override the patients autonomous request because the principles of non-maleficence, beneficence and justice trump the principle of respect for autonomy.

The theory of deontology is based on the duties and rights of an individual and dentists have moral and legal duties to their patients and duties to themselves. In South Africa, the ethical duties of the dentist are stipulated by the HPCSA and the legal duties are those stipulated by the NHA (2003) and the HPA (1974). I utilise Regulation 238 (2009) of the HPA (1974) which defines the scope of practice for dentists to argue that when a dentist independently wires a patient's jaw for weight loss, this procedure falls out of the scope of dental practice, even though jaw wiring for fractures falls within the scope of dental practice. Dentists that independently wire jaws for weight loss are at risk of being charged with professional misconduct, medical malpractice, or culpable homicide. Dentists are only allowed to wire jaws for weight loss when the dentist is part of a multi-disciplinary team treating obesity or the overweight condition, because the dentist will not be responsible for the diagnosis and monitoring of the metabolic disorder.

REFERENCES

Ahmad, I., 2010. Risk management in clinical practice. Part 5. Ethical considerations for dental enhancement procedures. *British dental journal*, *209*(5), pp.207-214. doi.org/ 10.1038/sj.bdj.2010.769.

Al-Dhubhani, M.K. and Al-Tarawneh, A.M., 2015. The role of dentistry in treatment of obesity– review. *The Saudi Journal for Dental Research*, *6*(2), pp.152-156. doi.org/10.1016/j.sjdr.2014.11.005.

Atiyeh, B. S., Rubeiz, M. T., & Hayek, S. N. (2008). Aesthetic/cosmetic surgery and ethical challenges. *Aesthetic plastic surgery*, *32*(6), p.829.

Beauchamp, T. 2019. *The Principle of Beneficence in Applied Ethics* [online]. *The Stanford Encyclopedia of Philosophy,*
Available: <https://plato.stanford.edu/archives/spr2019/entries/principle-beneficence/>.
[Accessed 20 July 2020]

Beauchamp, T. and Childress, J. 2013. *Principles of Biomedical Ethics*. th Edition. New York: Oxford University Press.

Behbehani, F., Al-Aryan, H., Al-Attar, A. and Al-Hamad, N., 2006. Perceived effectiveness and side effects of intermaxillary fixation for diet control. *International journal of oral and maxillofacial surgery*, *35*(7), pp.618-623. doi.org/10.1016/j.ijom.2006.01.010.

Bogers, R.P., Bemelmans, W.J., Hoogenveen, R.T., Boshuizen, H.C., Woodward, M., Knekt, P., Van Dam, R.M., Hu, F.B., Visscher, T.L., Menotti, A. and Thorpe, R.J., 2007. Association of overweight with increased risk of coronary heart disease partly independent of blood pressure and cholesterol levels: a meta-analysis of 21 cohort studies including more than 300 000 persons. *Archives of internal medicine*, *167*(16), pp.1720-1728. doi.org/10.1001/archinte.167.16.1720.

Bostrom, N. and Sandberg, A., 2009. Cognitive enhancement: methods, ethics, regulatory challenges. *Science and engineering ethics*, *15*(3), pp.311-341. doi.org/10.1007/s11948-009-9142-5.

Bruscino, T., 2012. Basic ethics in dentistry. *The Academy of Dental Learning & OSHA Training*, pp.16-25.

Cannell, H., 1992. Enforced intermaxillary fixation (IMF) as a treatment for obesity. *Obesity surgery*, *2*(3), pp.225-230.

Chan, S. and Harris, J., 2006. Cognitive regeneration or enhancement: the ethical issues. *Regenerative Medicine,* 1(3) pp361-366. doi.org/ 10.2217/17460751.1.3.361

De Roubaix, J.A.M., 2011. Beneficence, non-maleficence, distributive justice and respect for patient autonomy–reconcilable ends in aesthetic surgery?. *Journal of Plastic, Reconstructive & Aesthetic Surgery*, *64*(1), pp.11-16. doi.org/10.1016/j.bjps.2010.03.034

Dharamsi, S. and MacEntee, M.I., 2002. Dentistry and distributive justice. *Social Science & Medicine*, *55*(2), pp.323-329. doi.org/0277-9536/02/
Dworkin, G. 2020. *Paternalism* [online]. *The Stanford Encyclopedia of Philosophy, Available:* <https://plato.stanford.edu/archives/sum2020/entries/paternalism/>. [Accessed 24 July 2020]

Falahati, S., 2014. What is the Scope of Autonomy in Medical Practice?. *Scottish Universities Medical Journal*, *3*(1), pp.37-41.

Felzmann, H., 2017. Utilitarianism as an Approach to Ethical Decision Making in Health Care. In: *Key Concepts and Issues in Nursing Ethics.* Springer International Publishing. pp29–41. doi.org/1007/978-3-319-49250-6_3.

Fieser, J., No date. *Duty theories* [online]. Internet Encyclopedia of Philosophy ISSN 2161-0002. Available from: <https://iep.utm.edu/ethics/#SH2b> [Accessed 25 August 2020]

Garrett, T.M. Baillie, H.W. & Garrett, R.M. 1993. *Health Care Ethics: Principles And Problems.* 2nd Edition. Pearson: Prentice Hall

Garrow, J.S., 1974. Proceedings: Dental splinting in the treatment of hyperphagic obesity. *The Proceedings of the Nutrition Society*, *33*(2), p.29A.

Gosepath, S. 2011. *Equality* [online]. *The Stanford Encyclopedia of Philosophy Available:* <https://plato.stanford.edu/archives/spr2011/entries/equality/>. [Accessed 24 August 2020]

Graaff, E., 2007. *Statistical report.* Ombudsman's office. Pretoria: HPCSA.

Hartshorne, J. and van Zyl, A., 2020. Dental malpractice and its liabilities: Ethical and legal considerations every dentist should know. *International Dentistry-African Edition,* 10 (2) pp46-60

Health Professionals Council of South Africa (HPCSA). 2016. Guidelines for good practice in health care professions: Booklet 1- *General ethical guidelines for the Healthcare professions.* Pretoria: HPCSA.

Health Professionals Council of South Africa (HPCSA). 2016. Ethical and professional rules of the Health Professionals Council of South Africa: Booklet 2- *Guidelines for good practice in health care professions.* Pretoria: Health Professionals Council of South Africa.

Health Professionals Council of South Africa (HPCSA). 2020. *About us* [online]. Pretoria: Health Professionals Council of South Africa (HPCSA).
Available from: <
https://www.hpcsa.co.za/?contentId=463&actionName=About%20Us>

[Accessed 11 September 2020]

Horton, J., 2002. Principles of biomedical ethics-TL Beauchamp & JF Childress. New York: Oxford University Press, 2001. ISBN 0-19-514332-9. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, *1*(96), p.107.

Hoyle, J., 2013. The distressed patient seeking self-harm: autonomy versus beneficence. *The Journal of the American College of Dentists*, *80*(2), pp.32-36.

Hupp, J.R., Ellis, E. and Tucker, M.R., 2008. Contemporary oral and maxillofacial surgery. *St. Louis: Mosby Elsevier*, *383*, pp.385-388.

Juengst, E. T., 1998. “What does enhancement mean?,”. In: *Enhancing Human Traits: Ethical and Social Implications*. Georgetown University Press. pp29–47.

Kapoor, R., 2019. What Is Wrong with a Rights-based Approach to Morality?. *Journal of National Law University Delhi*, *6*(1), pp.1-11. doi.org/10.1177/2277401719870004

Kayani, S.G., Ahmed, W., Farooq, M., Rehman, A.U.R., Nafees, Q. & Baig, A.M., 2015. Weight Loss Due To Maxillomandibular Fixation in Mandibular Fractures. *Pakistan Oral & Dental Journal*, 35(3) pp.374–376.

Kharma, M.Y., Aws, G. and Tarakji, B., 2016. Are dentists involved in the treatment of obesity?. *Journal of International Society of Preventive & Community Dentistry*, *6*(3) pp.183–188. doi.org/10.4103/2231-0762.183112.

Komrad, M.S., 1983. A defence of medical paternalism: maximising patients' autonomy. *Journal of medical ethics*, *9*(1), pp.38-44.

Kruger, H.S., Puoane, T., Senekal, M. and Van Der Merwe, MT. 2005. Obesity in South Africa: challenges for government and health professionals. *Public Health Nutrition*. 8(5) pp.491-500. doi.org/10.1079/PHN2005785

Laskin, D.M., 1974. Oral surgeons face a weighty problem. *Journal of oral surgery (American Dental Association: 1965)*, *32*(9), pp.646-647.

Mack, P., 2004. Utilitarian Ethics in Healthcare. *International journal of the computer, the internet and management*. 12(3) pp.63–72.

Makwakwa, N.L. and Motloba, P.D., 2019. Dental malpractice cases in South Africa (2007-2016). *South African Dental Journal*, *74*(6), pp.310-315. doi.org/10.17159/2519-0105/2019/v74no6a5

Maslen, H., Faulmüller, N. and Savulescu, J., 2014. Pharmacological cognitive enhancement—how neuroscientific research could advance ethical debate. *Frontiers in systems neuroscience*, *8*, p.107.doi.org/10.3389/fnsys.2014.00107.

Mathus-Vliegen, E.M.H., Nikkel, D. and Brand, H.S., 2007. Oral aspects of obesity. *International dental journal*, *57*(4), pp.249-256.57(4):249–256. doi.org/10.1111/j.1875-595X.2007.tb00128.x.

McGraw-Hill Concise Dictionary of Modern Medicine. 2002. [online]. The McGraw-Hill Companies, Inc. Available from :

<https://medicaldictionary.thefreedictionary.com/professional+misconduct>

[Accessed 22 August 2020]

McQuoid-Mason, D., 2012. Michael Jackson and the limits of patient autonomy. *South African Journal of Bioethics and Law*, *5*(1), pp.11-14.

Mediratta, A., 2016. Effects of interdental/intermaxillary wiring on teeth and periodontal tissues in the management of dentoalveolar and jaw fractures. *J Dent Special*, *4*, pp.10-13. doi.org/10.5958/2393-9834.2016.00002.4.

Mollentze, W.F., Moore, A.J., Steyn, A.F., Joubert, G., Steyn, K., Oosthuizen, G.M. and Weich, D.J.V., 1995. Coronary heart disease risk factors in a rural and urban Orange Free State black population. *South African Medical Journal*, *85*(2), pp.90-96.

Moodley, K. 2011. *Medical Ethics, Law and Human Rights. A South African Perspective*. 1st Edition. Van Schaik Publishers.

Motloba, P.D., Makwakwa, N.L. and Machete, L.M., 2019. Justice and oral health-implications for reform: Part Two. *South African Dental Journal*, *74*(4), pp.208-211. doi.org/10.17159/2519-0105/2019/v74no4a8.

Mousavi, S.R. 2010. The Ethics of Aesthetic Surgery. *Journal of cutaneous and aesthetic surgery.* 3(1), p. 38. doi.org/10.4103/0974-2077.63396.

Müller, S., 2009. Body integrity identity disorder (BIID)—is the amputation of healthy limbs ethically justified?. *The American Journal of Bioethics*, *9*(1), pp.36-43. doi.org/10.1080/15265160802588194.

Nwoga, M.C., Maduakor, S.N. and Ndukuba, A.C., 2019. Voluntary jaw wiring in Nigeria: Reasons and treatment outcome. *International Journal of Medicine and Health Development*, *24*(1), p.28. doi.org/10.4103/ijmh.ijmh_3_19.

Ogden, J. and Mundray, K., 1996. The effect of the media on body satisfaction: The role of gender and size. *European Eating Disorders Review: The Professional Journal of the Eating Disorders Association*, *4*(3), pp.171-182.

Perry, M.B.P. 2007. Principles of fracture management: Timing, reduction and choice of fixation. In: *Maxillofacial Surgery*. pp. 48–61.

Philip, S., 2020. *Intuitionism in Ethics [online]. The Stanford Encyclopedia of Philosophy*

Available : <https://plato.stanford.edu/archives/sum2020/entries/intuitionism-ethics/>.

[Accessed 31 August 2020]

Popkin, B.M., 1994. The nutrition transition in low-income countries: an emerging crisis. *Nutrition reviews*, *52*(9), pp.285-298.

Postma, T.C., Van Wyk, P.J., Heymans, J.H., White, J.G. and Prinsloo, P.M., 2011. An analysis of complaints against oral health professionals charged with misconduct at the HPCSA: 2004-2009: scientific. *South African Dental Journal*, *66*(9), pp.420-425.

Pyne, V. and Macdonald, I.A., 2016. Update on carbohydrates and health: the relevance of the Scientific Advisory Committee on Nutrition report for children. *Archives of disease in childhood*, *101*(10), pp.876-880.

Rachels J. and Rachels S. 2019. *The Elements of Moral Philosophy*. 9th edition. New York: McGraw-Hill.

Racine, E. and Forlini, C., 2010. Cognitive enhancement, lifestyle choice or misuse of prescription drugs?. *Neuroethics*, *3*(1), pp.1-4.doi.org/10.1007/s12152-008-9023-7

Reas, D.L., Masheb, R.M. and Grilo, C.M., 2004. Appearance vs. health reasons for seeking treatment among obese patients with binge eating disorder. *Obesity research*, *12*(5), pp.758-760. doi.org/10.1038/oby.2004.91.

Reid, K.I., 2017. Informed consent in dentistry. *The Journal of Law, Medicine & Ethics*, *45*(1), pp.77-94.doi.org/10.1177/1073110517703102.

Republic of South Africa. 1974. Health Professions Act 56 Of 1974. Available from: <https://www.hpcsa.co.za/Uploads/Legal/legislation/health_professions_ct_56_1974.pdf> [Accessed 31 March 2020]

Republic of South Africa. Health Professions Act 56 of 1974. 2006. *Ethical Rules Of Conduct For Practitioners Registered Under The Health Professions Act, 1974* [online]. Government Gazette 29079
Available from:
< https://www.greengazette.co.za/notices/health-professions-act-56-1974-ethical-rules-of-conduct-for-practitioners-registered-under-the-health-professions-act-1974-amendment_20180316-GGN-41498-00039.pdf> [Accessed 25 August 2020]

Republic of South Africa. Health Professions Act 56 of 1974. 2009. *Regulations Defining The Scope Of The Profession Of Dentistry* [online]. Government Gazette 31859 2009;29(1):1–16. Available from:

<http://www.hpcsa.co.za/Uploads/editor/UserFiles/downloads/legislations/acts/health_professions_ct_56_1974.pdf> [Accessed 25 August 2020].

Rodgers, S., Goss, A., Goldney, R., Thomas, D., Burnet, R., Phillips, P., Kimber, C., Harding, P. and Wise, P., 1977. Jaw wiring in treatment of obesity. *The Lancet*, *309*(8024), pp.1221-1223.

Rohrich, R.J., 2000. The increasing popularity of cosmetic surgery procedures: a look at statistics in plastic surgery. *Plastic and reconstructive surgery*, *106*(6), pp.1363-1366.

Rosentstand N. 2017. *The Moral of the story: An introduction to Ethics*. 8th edition. Mountain View. Mayfield.

Sandman, L., Granger, B.B., Ekman, I. and Munthe, C., 2012. Adherence, shared decision-making and patient autonomy. *Medicine, Health Care and Philosophy*, *15*(2), pp.115-127. doi.org/10.1007/s11019-011-9336-x.

Savulescu, J., 1995. Rational non-interventional paternalism: why doctors ought to make judgments of what is best for their patients. *Journal of medical ethics*, *21*(6), pp.327-331.

Savulescu, J., 2007. Autonomy, the good life, and controversial choices. *The Blackwell guide to medical ethics*, (Part 1), pp.17-37.

Senekal, M., Steyn, N.P. and Nel, J.H., 2003. Factors associated with overweight/obesity in economically active South African populations. *Ethnicity & disease*, *13*(1), pp.109-116.

Shephard, B.C., Townsend, G.C. and Goss, A.N., 1982. The oral effects of prolonged intermaxillary fixation by interdental eyelet wiring. *International journal of oral surgery*, *11*(5), pp.292-298.

Simonsen, M.K., Hundrup, Y.A., Obel, E.B., Grønbæk, M. and Heitmann, B.L., 2008. Intentional weight loss and mortality among initially healthy men and women. *Nutrition reviews*, *66*(7), pp.375-386.doi.org/10.1111/j.1753-4887.2008.00047.x.

Simpson, D. L., No date. *William David Ross (1877-1971)* [online]. Internet Encyclopedia of Philosophy ISSN 2161-0002. Available from:<https://iep.utm.edu/ross-wd/#H6> [Accessed 9 September 2020]

Summers, J. and Morrison, E., 2009. Principles of healthcare ethics. In: *Health Care Ethics.* 2nd Edition*. Sudbury: Jones and Bartlett Publishers*, pp.41-58.

Sykes, L.M., Evans, W.G. and Dullabh, H.D., 2017. Part 14. Negligence versus Malpractice: The" Reasonable Man Rule". *South African Dental Journal*, *72*(9), pp.430-432.doi.org/10.17159/2519-0105/2017/v72no9a7

Thomas, R. and McCormick, D.Min., 2018. *Principles of Bioethics* [online]. University of Washington. Available from:
<https://depts.washington.edu/bhdept/ethics-medicine/bioethics-topics/articles/principles-bioethics> [Accessed 22 August 2020]

Thor, A. and Andersson, L., 2001. Interdental wiring in jaw fractures: effects on teeth and surrounding tissues after a one-year follow-up. *British Journal of Oral and Maxillofacial Surgery*, *39*(5), pp.398-401. doi.org/10.1054/bjom.2001.0670.

Van der Reyden, D., 2008. The right to respect for autonomy: Part 1-What is autonomy all about?. *South African Journal of Occupational Therapy*, *38*(1), pp.27-31.

Vassimon, H.S., Pigoli, D.R., de Oliveira Neto, F.V., Palhares, A., Haddad, A.L.M., Padovani, C.R., Mazzoni, A. and Nogueira, C.R., 2004. Intermaxillary fixation as co-adjuvant treatment for morbid obesity. *Obesity surgery*, *14*(6), pp.829-832. doi.org/10.1381/0960892041590881.

Veatch, R.M., 2003. Is there a Common Morality? Kennedy Institute of Ethics Journal of Ethics Journal, 13(3), pp189-192. doi.org/10.1353/ken.2003.0024.

Vorster, H. 2002. The emergence of cardiovascular disease during urbanisation of Africans. *Public Health Nutrition*. 5(1A):239–43.

Wood, G.D., 1977. The early results of treatment of the obese by a diet regimen enforced by maxillomandibular fixation. *Journal of oral surgery (American Dental Association: 1965)*, *35*(6), p.461.

World Health Organisation (WHO). *Body mass index – BMI* [online]. Available from: https://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle/body-mass-index-bmi

[Accessed 25 May 2020]

World Health Organisation (WHO). 2018. *Obesity and overweight* [online]. Available from: https://www.who.int/en/news-room/fact-sheets/detail/obesity-and-overweight

[Accessed 01 March 2020]

Williamson, D.F., Pamuk, E., Thun, M., Flanders, D., Byers, T. and Heath, C., 1999. Prospective study of intentional weight loss and mortality in overweight white men aged 40–64 years. *American journal of epidemiology*, *149*(6), pp.491-503.doi.org/10.1093/oxfordjournals.aje.a009843.

Zipfel, S., Giel, K.E., Bulik, C.M., Hay, P. and Schmidt, U., 2015. Anorexia nervosa: aetiology, assessment, and treatment. *The lancet psychiatry*, *2*(12), pp.1099-1111.doi.org/10.1016/S2215-0366(15)00356-9

APPENDIX A – TURNITIN REPORT