The Chiropractic Report

www.chiropracticreport.com Editor: David Chapman-Smith LL.B. (Hons.) January 2008 Vol. 22 No. 1

Professional Notes

Italy Passes Chiropractic Legislation

Since January 1, 2008, and under legislation passed by the Italian Camara (lower house) and then the Senate on December 21, 2007, the practice of chiropractic is finally legal and to be regulated in Italy.

This is on the standard primary contact basis adopted internationally, with the right and duty to diagnose, and with the right to use the title 'doctor of chiropractic'.

This achievement comes 17 years after the Italian Chiropractic Association or Associazione Italiana Chiropratici (AIC) first presented a proposal for legislation, and in the face of concerted opposition from representatives of the medical profession. Italy, which is understood to have the highest ratio of medical doctors to population in the world (400,000 to 57 million) has only 300 duly qualified chiropractors.

AIC President Dr. John Williams confirms that this legislative victory followed a round-the-clock campaign in the final days, but was only possible because of

continued on page 4

Understanding and Promoting Placebo Effects

". . . learn to harness and drive the powerful tool of the placebo response".

Basmajian and Nyberg, Rational Manual Therapies.[1]

A. Introduction

FOR EVERY PATIENT SEEKING health care there are three fundamental sources of healing:

- The natural healing powers of the body – so often underestimated and undermined by patients and their health care professionals, and of central importance to the philosophy and good practice of chiropractic.
- The specific effects of treatment
- The placebo or non-specific effects of the treatment and whole health care encounter with the health professional chosen by the patient.

Accordingly, good clinical practice by any health care professional should promote all three sources of healing.

2. The placebo effect in health care is the power of the health professional to make the patient feel better quite apart from the specific or proven benefits of any treatment rendered. Placebo (Latin: I will please) effects arise from:

- The confidence and personality of the professional – and the sense of confidence and reassurance felt by the patient as a result.
- The mere magic of a pill – even one without any active ingredient
- The pure drama of surgery
- The intimacy of manual care
- The patient's fascination with electrotherapy – which therefore works for many with the electricity turned off.

As the 20th century progressed the medical world developed such a fixation with science and the biomedical model of health that the art of health care and the role of patients in promoting their own health were largely overlooked. The power of placebo effects was increasingly neglected, untaught and dismissed.

All that began to change in the 1990s as the pendulum swung back. In 1994 *The Lancet* published a major series of seven articles by medical leaders in Europe and North America with the goal of rehabilitating and championing the importance of placebo effects. In the same year in an article titled *The Importance Of Placebo Effects of Pain Treatment and Research* published in the *Journal of the American Medical Association,*[2] Turner, Deyo et al. addressed common misconceptions with respect to placebo effects which, they observed, were frequently equal or superior to specific treatment effects.

David Reilly, the Scottish family physician and homeopath who had coined the term complementary and alternative medicine (CAM) in 1987, wrote:

"We have to challenge ourselves as caregivers and scientists, because it now seems that our neglect of therapeutic relationships and of the relationships between emotions and illness is actually unscientific.

"We pride ourselves as scientists, yet we are not taking on board the new scientific data, for example, from the field of psychoneuroimmunology, showing a mind-body link, with impact from stress, loneliness, despair, grief, and other important personal life events on illness and recovery. I think we need more research into actual human healing, as opposed to disease control." [3]

In 2002 the *New England Journal of Medicine* published a convincing example of the power of placebo in surgery – a US trial of arthroscopic surgery for

patients with osteoarthritis and pain in the knee. Those receiving placebo or sham surgery did every bit as well as those receiving the real surgical procedures. Let's pause to look at this important trial and its background in some detail.

3. By the 1990s arthroscopy had become the most common form of orthopedic surgery, and in the United States the knee was by far the most common joint in which this surgery was performed. This was very frequently for patients with knee pain and osteoarthritis. Billions of dollars were being spent annually, but it remained unclear how arthroscopic knee surgery to shave and trim the joint (debridement) and to flush out debris (lavage) actually brought pain relief. No physiological basis had been demonstrated.

Therefore with funding from the Department of Veterans' Affairs, Moseley, O'Malley et al.[4] conducted a placebo-controlled trial at the Houston Veterans Affairs Medical Center between 1995 and 1998 to see if there was any physiological basis and specific surgical effect for pain relief and improved function. Summary points are:

a) To be included in this study patients had to be 75 years of age or younger, have osteoarthritis of the knee, have reported at least moderate knee pain despite maximal medical treatment for at least 6 months, and have not had arthroscopy of the knee during the previous two years.

b) 180 such patients were recruited and randomized into three groups:

i) *Lavage*. After diagnostic arthroscopy the knee joint was lavaged with at least 10 liters of fluid. If a mechanically important, unstable tear in the meniscus was encountered the torn portion was removed and the remaining meniscus smoothed – otherwise there was no debridement.

ii) *Debridement*. After diagnostic arthroscopy there was lavage and debridement of the joint, with all loose debris removed and the remaining meniscus shaved and finished to a firm and stable rim.

iii) *Placebo procedure*. To preserve blinding in the event that patients in this group did not have total amnesia, a standard arthroscopic debridement procedure was simulated. Three 1-centimeter incisions were made in the skin. The surgeon asked for all instruments and manipulated the knee as if arthroscopy was being performed. Saline was splashed to simulate the sounds of lavage.

Post-operative care for patients in all three groups was the same – in terms of hospital stay, walking aids, graduated exercise program and analgesics.

c) The one surgeon who performed all the procedures was board-certified as a surgeon, fellowship-trained in arthroscopy and sports medicine, had been in practice for 10 years in an academic medical center, and was currently the orthopedic surgeon for a National Basketball Association (NBA) team – an established expert in this field of surgery.

d) Results were measured subjectively (5 different scores reported by patients – 3 on scales for pain, and 2 on scales for function) and objectively (a walking and stair-climbing test) at many follow-up points - 2 weeks, 6 weeks, 3 months, 6 months, 12 months, 18 months and 24 months after the procedure.

e) The placebo group did as well or better than the other two groups on both pain relief and improved function throughout the two year follow-up period. At various points during follow-up "objective function was significantly worse in the debridement group than in the placebo group."

f) Moseley, O'Malley et al. conclude that their trial "provides strong evidence that arthroscopic lavage with or without debridement is not better than . . . a placebo procedure in improving knee pain and self-reported function."

Their closing comments are of particular interest in the present context:

- "This study has shown a great potential for a placebo effect in surgery"
- "Health care researchers should not underestimate the placebo effect, regardless of its mechanism."

To conclude, this trial suggests that all patients improved because of the drama and excitement of surgery from a respected surgeon in a major hospital, and from the positive patient expectations fuelled by this and the close attention and follow-up care patients received in the trial – in other words from non-specific or placebo effects. And these patients, like many chiropractic patients, were chronic pain patients who had failed to progress under six months of other medical care. Therefore this was not natural remission over time, but self-healing unlocked by a concrete and expert surgical approach – given with confidence but apparently no actual physiological or specific treatment effect.

4. The evidence supporting the power and significance of placebo effects following all types of treatment continues to grow. In a large new acupuncture trial from Germany, published in English in *The Archives of Internal Medicine* and referred to in the last issue of this Report, patients with chronic low-back pain receiving sham acupuncture did just as well as those receiving therapeutic acupuncture, and both groups had superior results to patients receiving best medical care.[5] Improvements after sham acupuncture "were significant and lasted long after completion of treatment" – follow-up period was six months. This confirmed the outcome of another recent trial reporting that acupuncture and sham acupuncture produced similar results.[6]

Although these trials failed to prove

The Chiropractic Report is an international review of professional and research issues published six times annually. You are welcome to use extracts from this Report. Kindly acknowledge the source. Subscribers may photocopy the Report or order additional copies (.80 cents each, plus shipping – minimum of 20 copies) for personal, non-commercial use in association with their practices. However, neither the complete Report nor the majority or whole of the leading article may be reproduced in any other form without written permission.

Subscription: for rates and order form, see page 8.
- Visit www.chiropracticreport.com
- Call 416.484.9601
- Email us at TCR@chiropracticreport.com

Changes of mailing instructions should be sent to The Chiropractic Report, 203–1246 Yonge Street, Toronto, Ontario, Canada M4T 1W5, telephone 416.484.9601, fax 416.484.9665.
Printed by Harmony Printing Limited, 416.232.1472.

ISBN 0836-144

their hypothesis – that there would be a difference between the specific or physiological results of real and sham acupuncture – the equivalent of the US National Institutes of Health and UK National Institute for Health and Clinical Excellence – the German Federal Joint Committee of Physicians and Insurance Plans – has made acupuncture an insured benefit for chronic low-back pain on an equal footing with conventional medical therapy. What is important in this era is that the treatment 'works' whatever the reason.

Logically, this approach is completely defensible. There will be a plausible mechanism of action for all placebo effects if we learn enough about them – triggered by the patient's emotions and self-healing powers. In the words of Gøtzsche from Denmark, writing one of the seven articles in *The Lancet* already mentioned:

"We should divert our focus of interest from the essentially unsolvable problem of whether or not an intervention is a placebo towards the magnitude of the measured effect ... the larger the effect compared with no treatment, the more useful the intervention - whatever its nature ..... the important thing is that treatments are tested, not what we might choose to call them or their practitioners."[7]

5. Against this introductory background, this issue of The Chiropractic Report now looks at:

- Current theories on mechanisms of action of placebo
- Continuing misconceptions
- What doctors of chiropractic should do "to harness and drive the powerful tool of placebo response", to use the words of Canadian medical rehabilitation specialists Basmajian and Nyberg in their text *Rational Manual Therapies*.[1]

B. Mechanisms of Action

6. The exact mechanisms of action of the placebo response are not known, but these three theories are widely discussed in the current literature.

a) **Classical Conditioning**. The first report of a conditioned placebo effect was by Pavlov who observed experimental dogs displaying morphine-like effects when placed in the same chamber in which they had previously been given morphine.[8]

Subsequent studies have suggested that the placebo response can be conditioned in humans as well. Voudouris et al observed placebo effects of reduced pain in response to a neutral cream following conditioning trials in which the cream had been associated with pain reduction.[9]

Therefore, for example, a person who has experienced relief from a spinal adjustment in the past will most likely experience positive placebo effects during subsequent chiropractic treatment. However, another person who experienced pain and aggravation of symptoms after chiropractic treatment may have a negative placebo response if he/she has chiropractic care for a later problem. On this conditioning model of placebo effects, a patient's health history and previous health care experiences play a vital role in shaping the outcome of subsequent health-care encounters, and should therefore be discussed and understood.

b) **Expectations**. Expectancy models of placebo hold that both the patient's and the clinician's expectations regarding treatment will influence the changes that take place. It has been well documented that placebo effects in drug trials are especially strong, and that it is patient expectancies rather than the pharmacological effects of the drugs which tend to prevail. McMahon reports that when the US Food and Drug Administration first required that drugs be proven effective in the 1960s "thousands of drugs – which many patients and physicians thought worked – were removed from the market . . . long live the placebo".[10] After 40 years of conducting controlled clinical studies on drugs he concludes "that the placebo has made probably the single most important contribution to modern therapeutics of any drug."

It is a matter of debate as to how exactly patient expectations produce a response. One theory is that the expectation of successful treatment increases perception of control, and thus relieves the stress, anxiety and loss of control associated with illness. Another explanation of the expectancy model is that changes in expectations may cause behavioral changes, which in turn alter the patient's response to symptoms. An example is the neck or back pain patient who, anticipating that chiropractic treatment will be helpful, is now confident enough to resume normal activities which he/she had come to fear. Patients are distracted from their illnesses, improve their moods, and even enhance their physical states (i.e. increased muscle tone, increased motion) - quite apart from the specific or non-placebo effects of treatment.

The expectations of the clinician, not just the patient, are also important. In a double-blind study of dental patients[11] dentists were informed that patients in Group 1 would receive only a placebo (naloxone - a narcotic antagonist), whereas those in Group 2 would receive either a narcotic or the placebo. The only difference between the patients in both groups who received the placebo was the clinicians' knowledge. Dentists knew Group 1 patients received no active treatment, with Group 2 patients there was a known chance of active treatment. Interestingly pain reduction for those who received the placebo in Group 2 was significantly greater than in Group 1. It was concluded that the dentist's expectations influenced placebo analgesic effects.

Simply stated, under this model clinician and patient confidence that there will be good results is the fundamental explanation for the placebo response.

c) **Endogenous Opiates**. There is experimental evidence to suggest that production of the body's natural or endogenous opiates might mediate placebo responses to pain. Levine et al. were the first to study this using naloxone, an opioid antagonist, in dental surgery patients.[12] Patients were first given a placebo 'analgesic' for pain after dental surgery. Some responded experiencing pain reduction (placebo responders), some did not (placebo non-responders).

When naloxone was then given to all patients it caused a significantly greater increase in pain in the placebo responders, apparently neutralising the natural opiates that had caused pain reduction. Levine et al. concluded that endogenous opiates mediate placebo analgesia for post-operative dental pain. However

continued on page 6

The New Year brings a new Editorial Board and appearance for the Report, and a new website. We welcome any comment you may have, which should go to the editor at TCR@chiropracticreport.com

The Chiropractic World

Italy Passes Chiropractic Legislation

continued from page 1

Dr. John Williams

the strong support of many parliamentarians from majority and opposition parties who were favorable to chiropractic. They were led by Senator Lusi in the Senate, and Deputy On. Manuela Di Centa, a former world champion cross-country skier greatly helped by chiropractic in her career, in the Camara.

The next six months will be busy as the AIC negotiates with the Health Ministry and the Instituto Superiore della Sanità, the supreme health care authority in Italy, to create a register and formal registration qualifications for doctors of chiropractic. Various scope of practice issues remain unresolved.

Accordingly Italy has now joined Belgium, France and Portugal as European countries with a Napoleonic Code legal system that have accepted and legalized the qualified practice of chiropractic.

There were less than 20 chiropractors in Italy when the AIC was formed in 1974. However, the profession grew more quickly in the 1980s following a Health Ministry report concluding that chiropractic should be accepted as a legitimate occupation, and following a circulare or regulation authorizing chiropractic practice on medical referral. This growth, however, was in two different forms:

- In Static Clinics operated by medical entrepreneurs, employing mostly foreign chiropractors to adjust patients seen on medical referral. At one point these clinics were in most major cities and received over 1000 new patients weekly.
- In traditional private chiropractic clinics, operated by chiropractors but arguably illegal.

In the 1990s prosecutions encouraged the National Federation for the Orders of Medical Doctors and Dentists (the Medical Federation), which represents organized medicine in Italy, were not successful. Courts ruled that the practice of chiropractic, though not defined under Italian law, was not the practice of medicine or prohibited. This allowed duly qualified chiropractors to practise without fear of prosecution and numbers in practice in the country continued to rise. However it also opened the floodgates to pseudo-chiropractors and hundreds of these qualified from diploma mills and began to practise.

In 2002, following a national survey reporting that 9 million Italians were using alternative health care annually, the Medical Federation proclaimed all such alternative care including chiropractic as 'acts of medicine' and promoted further prosecutions. One went to the Supreme Court which overruled earlier decisions and found that the independent practice of chiropractic was a medical act.

This provoked a new wave of federal police investigations, arrests and trials of chiropractors which, in turn, produced a renewed legislative campaign by the AIC supported by the European Chiropractors' Union and the World Federation of Chiropractic. This has now been successful. Congratulations to Dr. Williams and other leaders of the AIC. The AIC will be celebrating this victory in conjunction with a Parker Seminar to be held in Rimini, Italy from June 26-28, 2008. For more information on this meeting consult www.chiropratica.it.

(*Sources:* AIC News Release and *Chiropractic in Italy,* Thomas Rigel, Chapter 11 in *Chiropractic in Europe: An Illustrated History,* edited by Francis Wilson, European Chiropractors' Union 2007.)

Further World Notes (*Source: World Federation of Chiropractic***).**

Brazil. Brazilian Chiropractors' Association (ABQ) President Dr. Juliana Piva and the ABQ membership give grateful thanks to the many individuals and organizations who have contributed to the ongoing fund raising campaign to support the ABQ as it fights for a separate and distinct identity for the chiropractic profession in Brazil – where the physiotherapy profession is claiming chiropractic is a PT specialty and has started short-term courses for PTs leading to a 'certificate of chiropractic'. Have you contributed? Please help at the level you can. For details of the campaign, those who have made a donation and a donation form go to the Newsroom at www.wfc.org. Donations from the last month include contributions from the Chiropractors' Association of Australia (a further $5,000), Life University ($4,000) and Dr. Zsolt Kálbori on behalf of the five members of the Hungarian Chiropractic Association ($400.00).

Ghana. Following the retirement of Dr. Eno Sefah-Tawiah, Ghana's five chiropractors are led by Dr. Bryan Cox (Life University 2002), an American married to a Ghanaian who has been living and practising in the capital Accra for the past five years. There is no law to regulate the practice of chiropractic in Ghana, but practice is legal and Dr. Cox and his colleagues are well known to and supported by government authorities. *Contact:* Dr. Bryan Cox, TheSpinalClinic@yahoo.com.

South Korea. The Korean Chiropractic Association (KCA), the Hanseo University School of Chiropractic and the World Federation of Chiropractic (WFC), are presenting a KCA Extremities Technique Seminar in Seoul on Saturday June 8 and Sunday 9, 2008. You have a choice of 12 hour programs from two leading experts – Dr. Mark Charrette on upper extremities sponsored by Foot Levelers, or Dr. John Downes on lower extremities sponsored by Life University. Registration fee is US$295, and funds raised will support the KCA in its continuing fight for chiropractic legislation.

The seminar is being held together with meetings of the WFC Council (June 4-7) and the Asian Pacific Chiropractic Doctors' Federation (June 6). If you are in Asia, or are a Korean DC practising elsewhere, or simply want a great meeting and excuse to visit South Korea, plan to be there. *For details:* Contact Dr. Nari Hong at chironarihong@yahoo.co.kr or from January 15 visit www.wfc.org.

Switzerland. The latest issue of the European Chiropractors' Union (ECU) newsletter reports that Switzerland's first undergraduate chiropractic program will commence at the University of Zurich in autumn 2008. Post- graduate education will

continue at the Swiss Chiropractic Institute in Berne, where Bea Wettstein Meichtry, the new Head of Education after the recent retirement of Dr. Martin Wangler, oversee the divisions of postgraduate and continuing education, accreditation and research.

Turkey: Istanbul and the Turkish Chiropractors' Association were the hosts for the WFC annual Eastern Mediterranean Seminar held this year on October 5-6 and featuring an extremities adjustment program from Dr. Mitch Mally of the USA. Chiropractors from seven countries attended – Cyprus, Egypt, Iran, Qatar, Saudi Arabia, Syria and Turkey.

Goals of the seminars are to provide continuing education opportunities for chiropractors in the region and to build stronger national and regional organizations. Dr. Stathis Papadopoulos, of Cyprus, WFC First Vice-President, administrator for these meetings, advises that next year's seminar will be sponsored by Palmer College and held in Cairo, Egypt on March 28-29. *Contact:* Dr. Papadopoulos at epeco@spidernet.com.cy.

United Kingdom. The field of sports chiropractic has grown rapidly in recent years in the UK as elsewhere in the world. As one reflection of this the UK's two accredited chiropractic schools are offering expanded undergraduate and postgraduate educational opportunities. The Anglo-European College of Chiropractic in Bournemouth, England, is now establishing a special assessment centre for athletes and a master's degree program in sports sciences and chiropractic. A keynote speaker at AECC Homecoming on September 8 was Jean Pierre Meersseman, DC who leads the sports medicine team for the leading Italian football club AC Milan.

In Wales the country's new Welsh Sports Medicine Centre is located at the Welsh Institute of Chiropractic at Glamorgan University. It was opened in March by Mr. Alan Pugh, Minister for Welsh Culture, Language and Sport at which time a multidisciplinary sports medicine seminar was held attended by chiropractors, physiotherapists and surgeons addressing lower limb-related functional disorders.

Legal Status of Chiropractic Worldwide

Table 1 gives the legal status of chiropractic practice throughout the world. Currently South Korea and Taiwan are the two countries where duly qualified doctors of chiropractic remain at significant risk of prosecution for practising their profession.

In countries where there is specific chiropractic legislation (marked 'a' in Table 1) the practice of chiropractic requires a licence following successful completion of examinations. Only duly qualified chiropractors can be licensed/registered and provide or claim to be providing chiropractic services. (For some countries where legislation is recent – for example France, Portugal and now Italy – the licensing/registration system is not yet fully in place).

continued on page 8

Table 1: Legal Status of Chiropractic by Country

African Region
Botswana[a]
Ethiopia[b]
Ghana[b]
Kenya[b]
Lesotho[a]
Mauritius[b]
Namibia[a]
Nigeria[a]
South Africa[a]
Swaziland[a]
Zimbabwe[a]

Asian Region
China[c]
Hong Kong – SAR China[a]
Indonesia[c]
Japan[b]
Malaysia[a]
Philippines[b]
Singapore[b]
South Korea[d]
Taiwan[c]
Thailand[a]
Vietnam[c]

Eastern Mediterranean Region
Cyprus[a]
Egypt[b]
Greece[b]
Iran[a]
Israel[b]
Jordan[b]
Lebanon[b]
Libya[b]
Morocco[b]
Qatar[b]
Saudi Arabia[a]
Syria[c]
Turkey[b]
United Arab Emirates[a]

European Region
Belgium[a]
Croatia[b]
Denmark[a]
Finland[a]
France[a]
Germany[b]
Greece[c]
Hungary[c]
Iceland[a]
Ireland[b]
Italy[a]
Liechtenstein[a]
Netherlands[b]
Norway[a]
Portugal[a]
Russian Federation[b]
Slovakia[b]
Spain[c]
Sweden[a]
Switzerland[a]
United Kingdom[a]

Latin American Region
Argentina[b]
Brazil[b]
Chile[b]
Columbia[b]
Costa Rica[a]
Ecuador[b]
Guatemala[a]
Honduras[b]
Mexico[a]
Panama[a]
Peru[b]
Venezuela[b]

North American Region
Bahamas[a]
Barbados[a]
Belize[b]
Bermuda[b]
British Virgin Islands[b]
Canada[a]
Cayman Islands[b]
Jamaica[b]
Leeward Islands[a]
Puerto Rico[a]
Trinidad & Tobago[b]
United States[a]
US Virgin Islands[b]

Pacific Region
Australia[a]
Fiji[b]
Guam[a]
New Caledonia[a]
New Zealand[a]
Papua New Guinea[b]
Tahiti[a]

Legend
a Legal pursuant to legislation to accept and regulate chiropractic practice.
b Legal pursuant to general law.
c Legal status unclear, but *de facto* recognition.
d Legal status unclear and risk of prosecution.
Source: World Federation of Chiropractic

more evidence is required before definite conclusions can be made on the role of endogenous opiates.

C. Common Misconceptions

7. Turner, Deyo et al, in their paper on pain and placebo already mentioned,[2] identity five commonly held misconceptions with respect to placebo effects:

a) **The administration of a placebo is the same as doing nothing**. It is simply a prejudice to believe this, or to hold that non-specific treatment effects are somehow illegitimate. They are frequently equal or superior to specific effects.

b) **Individuals responding to placebo have nothing wrong with themselves in the first place**. This assumes that only imaginary conditions respond to placebo effects. This is clearly not the case. Placebo responses have been observed for many 'real conditions' including angina,[13] asthma,[14] ulcer,[15] pain from dental surgery,[12] and hypertension.[16]

c) **Personality type affects the likelihood of being a placebo responder**. It is a myth that people who respond to placebos are peculiar, or different from the rest of us. Anxiety has often been identified as a personality trait of those who respond to placebo. It is essential to differentiate:

- Anxiety as a personality trait, experienced at relatively high levels as a chronic or stable characteristic of one's life-style;
- Situational anxiety, which is experienced by everyone in specific high-stress circumstances.

Studies have shown that situational anxiety is related to placebo-induced changes in pain tolerance, but that chronic anxiety is not.[17] The literature also provides no consistent data to suggest that other personality variables such as dependency, dominance, compliance, social desirability, introversion, extroversion, acquiescence or neuroticism predispose individuals to placebo reactions.[18]

Certain traits, in combination with specific situations of anxiety, may well predispose some individuals to placebo responses. However, it is the situation that is the dominant factor - and this applies to everyone.

d) **Placebo effects are short-lived**. This is another myth. Turner, Deyo et al. cite a study where sham surgery (in incision only) was performed with patients for angina pectoris, a condition unlikely to show natural remission of symptoms. All patients reported over 50% improvement in symptoms at one year follow-up.[13] In the Moseley, O'Malley et al. trial those subjects who received sham arthroscopic knee surgery (again skin incision only) maintained their improvement in symptoms at two year follow-up.[4]

e) **One third of subjects in any clinical trial will have a placebo response**. This is a widely held misconception based on one landmark paper titled *The Powerful Placebo* published in the *Journal of the American Medical Association* in 1955.[19] In this paper Beecher reviewed 15 studies and concluded that the placebo effect was produced in 33%-37% of individuals over a wide variety of conditions. Turner, Deyo et al. explain that placebo response rates vary considerably across studies but are "strikingly high on average". They cite a more recent analysis of trials with treatments originally thought to be effective, but later abandoned because they were found to have no specific treatment effects - an impressive 70% of patients had experienced positive outcomes from the abandoned treatments.[2]

Much of the negativity towards placebo effects has come from the research world, where many trials quite correctly and necessarily try to exclude placebo effects. These are the trials (often called 'fastidious trials') seeking to demonstrate whether a clearly defined intervention/treatment (e.g. a defined chiropractic joint adjustment technique, given under a precise experimental protocol) has a specific treatment effect. In this context non-specific placebo effects are an unhelpful source of bias that must be controlled and excluded. Now that it is known that placebo effects are frequently at least as important as specific effects, and indeed interact with and amplify specific effects, researchers are placing more emphasis on 'pragmatic trials'. These welcome and include placebo effects. An example is the well-known Meade et al. trial,[20] which compared chiropractic and hospital outpatient treatment for back pain patients. These two different treatment protocols were given in a normal clinical context, with clinicians doing whatever they normally did and subject only to flexible parameters (e.g. up to 10 treatment visits in up to six months).

D. Promoting Placebo Effects in Practice

8. Patients most frequently consult a chiropractor for neuromusculoskeletal problems causing pain (e.g. back pain, headache, pseudo-angina) or other symptoms (e.g. digestive and respiratory dysfunctions). These are often recurring or chronic problems. Such patients need care on a biopsychosocial model that combines:

a) Specific or direct treatment effects. These are now established for chiropractic manual treatments including joint adjustment – effects such as restoring joint position and ranges of motion, reducing soft-tissue tension and tenderness to pressure and altering somatovisceral reflexes. A good recent illustration of direct effects is the placebo-controlled trial of chiropractic management of patients with hypertension by Bakris, Dickholtz et al. from Chicago reported last year.[21] Patients receiving a therapeutic adjustment which repositioned the atlas vertebra correctly as confirmed on imaging, had positive results, those receiving a sham adjustment that failed to reposition the atlas did not.

b) The greatest non-specific or placebo effects possible. These effects are indirect, in the sense that while they originate from the clinician and what he/she does, they operate through the emotions and natural healing powers of the patient.

9. What elements in the art of chiropractic practice encourage placebo or non-specific benefits, and what should a chiropractor do to enhance these? On the basis of practice observation by Coulehan,[22] Jamison,[23] and Coulter[24] and patient studies by Cherkin[25, 26] these seem to be the key points:

a) **Confidence and commitment**. Perhaps the single most influential placebo aspect of the clinical encounter is the chiropractor's confidence derived from a grounding in the philosophy and principles of chiropractic practice. This is an important source of non-specific treatment effects because:

i) With this perspective chiropractors tend to be more comfortable and confident of a real cause, subluxation/dysfunction and its biomechanical and neurological effects, that they can address with tangible treatments and advice.

ii) There can be an immediate plan of treatment rather than "let's wait and see".

iii) These factors give the patient confidence and expectation of success.

Commitment to a treatment approach also makes a clinician more tolerant of the patient's idiosyncrasies. The patient is accepted without criticism or rejection. Additionally, as Shapiro and Shapiro observe,[27] the clinician's commitment is often interpreted by patients as increased interest in them.

b) **Information and advice**. The information patients are given regarding their conditions, both the content and format, is reported by them as a strong point in the chiropractic encounter.[22,25] Coulter, as a sociologist who has studied the profession at length, agrees. He sees the high quality of communication by doctors of chiropractic and their staff members during the office visit and whole clinical encounter as the key to the high rate of patient satisfaction the profession achieves. Quality communications are achieved through three methods:

• Concrete and clear language that demystifies the problem and is easily understandable. Much use is made of analogies (e.g. correcting a mechanical health problem similar to wheel alignment of a vehicle.)

• Visual Aids – virtually all DCs use printed materials, charts and skeletal models to reinforce explanation.

• Hands-on examination – this plays a powerful role. As DCs use skilled palpation with patients to reproduce pain and find stress points not previously detected by the patient "this provides powerful and instant confirmation that the chiropractor knows and understands the human body" says Coulter.

The net effect, in the words of another researcher Coulehan, "is a logical set of explanations which appeal to common sense, use scientific terminology, yet promote a natural, non-invasive, holistic approach to healing." [28]

c) **The laying on of hands**. Chiropractic practice involves "the laying on of hands", both in examination and treatment, and this is generally regarded as having non-specific effects at least as strong as medication, machines or surgery. In addition the actual adjustment or manipulation typically produces an audible release. To most patients this provides obvious and tangible evidence of value. Something that was previously 'out' is now 'in'. (The noise is, of course, merely the collapse of a nitrogen gas bubble released from the synovial joint during gapping).

10. Which provides the more powerful placebo effects – the personality of the health professional or the laying on of hands/pill/electrotherapy/drama of surgery? Research suggests that it is the former – and that confidence is of central importance to a strong therapeutic relationship.

In one British study[29] 200 patients reporting to a general medical practice with a variety of complaints (cough, sore throat, back pain, fatigue, headache, etc.) were divided into two groups. One group received what was termed a 'positive consultation'. This consisted of giving the patients a firm diagnosis and reassurance that they would recover in a few days. The other group received a 'non-positive consultation'. No firm diagnosis or reassurance was given. Patients in each group were then either given a 'treatment', which in fact was only a placebo pill, or no treatment. Thus, there were a total of four different groups. The researchers discovered:

a) It made very little difference whether or not a 'treatment' was administered. Two weeks after the initial consultation 50% of those not treated showed improvement compared to 53% of those who were 'treated'. However:

b) What kind of consultation they received made a significant difference - 64% of those receiving a positive consultation reported improvement compared to 39% of those who received a non-positive consultation. The attitude of the doctor was more important than the presence or absence of a pill.

11. In summary, to generate non-specific effects and enhance the specific effects of treatment in chiropractic practice, it is important for clinicians to appear confident, enthusiastic and caring, to emphasize manual contact in diagnosis and treatment and, through information and advice and otherwise, to give patients confidence, expectation of success and a new sense of control over their problems.

E. Conclusion

12. Placebo effects, which were probably the only source of benefit for most treatments for thousands of years, still lie at the heart of effective health care. They promote self-healing, amplify direct treatment effects, and are important in themselves. They must be understood, embraced and enhanced. Chiropractic leaders Meeker and Haldeman, writing for a series on CAM for physicians in the *Annals of Internal Medicine*, provide an eloquent summary statement on how chiropractic harnesses the power of the placebo:

"The clinical encounter tends toward a high-touch, low-technology health model with more concern for the person than the disease. Chiropractors believe in the inherent healing ability of the body and communicate the hope of healing to patients. Spinal manipulation and other forms of touching care require that a level of trust develop between the patient and the chiropractor. Repeated visits allow a relationship to flourish that is often used to communicate on a social and psychological level as well as about biological implications of care.

One recent essay opined that much of chiropractic's success and perhaps its most important contribution to health care might concern this patient-physician relationship. Analyses from anthropologic and sociologic perspectives have suggested that treatment by a chiropractor, especially for many patients with chronic pain, can generate a sense of understanding and meaning, an experience of comfort, an expectation of change, and a feeling of empowerment. The hands-on and compassionate "can do" clinical behavior of the typical chiropractor seems to be concrete, reassuring, and immediately satisfying. Observational studies and randomized trials leave little doubt that chiropractic patients are very satisfied with their management."[30] TCR

References

1 Basmajian JV, Nyberg R (1993) *Rational Manual Therapies,* Williams & Wilkins, Baltimore, Maryland, 3.

2 Turner JA, Deyo RA et al. (1994) *The Importance of Placebo Effects in Pain Treatment and Research*, JAMA 271(20):1609-1614.

3 Reilly, D (2001) *Comments on Complementary and Alternative Medicine in Europe*, J Alt and Comp Med 7 (Supplement 1):S-23-S-31.

4 Mosely JM, O'Malley K et al. (2002) *A Controlled Trial of*

Arthroscopic Surgery for Osteoarthritis of the Knee, NEJM 374(2)L81-87.

5 Haake, Muller et al. (2007) *German Acupuncture Trials (GERAC) for Chronic Low-Back Pain*, Arch Intern Med 167 (17):1892-1898

6 Brinkhaus, B, Witt CM et al. (2006) *Acupuncture in Patients with Chronic Low-Back Pain: A Randomized Controlled Trial*, Arch Intern Med 166(4):450-457.

7 Gøtzsche PC (1994) *Is There Logic in Placebo?* Lancet 344:925-926.

8 Peck C, Coleman G (1991) *Implications of Placebo Theory for Clinical Research and Practice in Pain Management*, Theoretical Medicine 12:247-270.

9 Voudouris NJ, Peck CL et al. (1989) *Conditioned Response Models of Placebo Phenomena: Further Support*, Pain 38: 109-116.

10 McMahon FG (1994) *Placebos in Medicine*, Lancet 344:1641.

11 Gracely RH, et al. (1985) *Clinicians' Expectations Influence Placebo Analgesia*, Lancet 335:43.

12 Levine JD, Gordon NC et al. (1978) *The Mechanism of Placebo Analgesia*, Lancet 2:654-657.

13 Dimond EG, Kittle CF (1960) *Comparison of Internal Mammary Ligation and Sham Operation for Angina Pectoris*, Am J Cardiol 5:483-486.

14 Nakayama K. (1961) *Surgical removal of the Carotid Body for Bronchial Asthma*, Diseases of the Chest. 40: 595-604.

15 Wangensteen O, Peeter E et al (1962) *Can Physiological Gastrectomy be Achieved by Gastric Freezing*, Annals Surg 156: 439-444.

16 Clark P, Leaverton P (1994) *Scientific and Ethical Issues in the Use of Placebo Controls in Clinical Trials* Annu Rev Public Health 15: 19-38.

17 Evans FJ (1985) *Expectancy, Therapeutic Instructions, and the Placebo Response* In: White L, Tursky et al, Placebo:Theory, Research, and Mechanisms. New York, NY: Guilford Press: 215-228.

18 Clark P, Leaverton P (1994) *Scientific and Ethical Issues in the Use of Placebo Controls in Clinical Trials* Annu Rev Public Health 15: 19-38.

19 Beecher HK (1955) *The Powerful Placebo*, JAMA 159(17):1602-1606.

20 Meade TW, Dyer S et al. (1990) *Low Back Pain of Mechanical Origin: Randomised Comparison of Chiropractic and Hospital Outpatient Treatment*, BR Med J 300:1431-37.

21 Bakris G, Dickholtz M et al. (2007) *Atlas Vertebra Realignment and Achievement of Arterial Pressure Goal in Hypertensive Patients: A Pilot Study,* J Human Hypertension, 1-7.

22 Coulehan JL (1990) *The Treatment Act: An Analysis of the Clinical Art in Chiropractic*, J Manipulative Physiol Ther 14 (1):5-1

23 Jamison JR (1994) *Chiropractic Holism: Accessing the Placebo Effect*, J Manipulative Physiol Ther 17 (5):339-346.

24 Coulter ID (2005) *Communication in the Chiropractic Health Encounter*, Chapter 5 in *Principles and Practice of Chiropractic*, ed. Haldeman SH, 3rd edition, McGraw Hill, New York.

25 Cherkin DC (1989) *Patient Evaluations of Low-Back Pain Care From Family Physicians and Chiropractors*, West J Med 150:351-355.

26 Cherkin DC (1988) *Managing Low-Back Pain - A Comparison of the Beliefs and Behaviors of Family Physicians and Chiropractors*, West J Med 149:475-480.

27 Shapiro AK, Shapiro E (1984) *Patient-provider Relationships and the Placebo Effect*, In: Matarazzo JD, Weiss SM et al, eds. Behavioral Health: A Handbook of Health Enhancement and Disease Prevention. New York, NY; Wiley-Interscience: 379.

28 Coulehan JL (1985) *Adjustment: The Hands and Healing*, Culture Med Psychiatry, 9:353-382.

29 Thomas KB (1994) *The Placebo in General Practice*, Lancet 344:1066-1067. This was the first of the 7 articles in *The Lancet*.

30 Meeker WC, Haldeman S (2002) *Chiropractic: A Profession at the Crossroads of Mainstream and Alternative Medicine*, Ann Intern Med 136:216-227.

continued from page 5

Where chiropractic is legal under general law only (b) there is the problem that unqualified persons can also practise as chiropractors. Countries where this is a significant problem include Brazil, Germany and Japan. In a few countries, examples being Greece and Hungary, legal status remains unclear but duly qualified chiropractors have established and respected practices and have not been challenged legally in recent years.

For national chiropractic association contacts in each country, and to learn more about rights to practise in specific countries, go to Contacts/Countries at www.wfc.org.