



**PRINCIPLES & PRACTICE
DIRECTOR'S REPORT
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by

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INTRODUCTION:

The Department had recently undertaken a number of workshop days to clarify its strategic plan and values. One of the important decisions from this process was the desire to be a chiropractic school that was well balanced between philosophy and science (evidence based). We had also highlighted some characteristics of our “ideal graduate”. Examples of these characteristics are to be able to manually adjust, to be a critical thinker and life-long learner, a good diagnostician, and to have a healthy sense of chiropractic identity. In August of 2006, I accepted the directorship of Principles and Practice with a clear understanding of its responsibilities and took the Department’s goals to heart when approaching the Principles and Practice curriculum.

To broaden my understanding of the above characteristic, I met with a number of individuals. Peter Bull, Sharyn Eaton, Subra Vemulpad, and Rod Bonello were particularly helpful department members from whom I received much assistance and guidance.

I also met with relevant stakeholders for their opinions and ideas. Denis Richards, President of the Chiropractic Association of Australia (National) and Anthony O’Rielly, President of the Sydney College of Chiropractic Advisory Board, were my primary source of inspiration and understanding from outside the Department. Additionally, I had been speaking with students since my arrival to the Department, getting their feedback about their chiropractic program. During this time, I had also observed the clinical practices of our students in clinic and at sporting events. After careful and well rounded information gathering, I planned a way forward and then embarked on my contribution in making our chiropractic program the best in the region and perhaps the world.

REPORT:

There are three major components within the Principles and Practice units; 1) Chiropractic Skills, 2) Biomechanics, and 3) Philosophy and Research. Improvement to these units would include a better alignment with University workload expectations as well as the implementation of learning and teaching best practices.

1) CHIROPRACTIC SKILLS:

There are two major driving forces within this component. The first is to empower our graduates with confidence to be able to adjust patients manually and with specificity. It is a commonly held tenant that these skills help to differentiate chiropractic from other health care professions and therefore are important to the development of our identity. Efforts undertaken to achieve this have been the implementation of adjusting in skills tutorials and a decrease in the heavy reliance on mock thrusting. The Activator Technique distracted from the manual adjusting focus and was thus temporarily removed from our curriculum. Mechanisms for its re-introduction will be addressed below. Terminal Point Technique and Flexion Distraction (TPT/DF) could also be seen as distractions from the manual focus but plans to move them towards the end of the program met with resistance. The concern was that many of our clinic patients had become accustomed to TPT/FD and would not appreciate having to wait until our interns developed the necessary skills. As a compromise, TPT/FD has ultimately been placed in the second semester of the first Masters year.

The second major driving force was to have our students competent in a core set of adjustments before going into clinic. This required starting essential skills earlier within the curriculum. Skills historically taught in the Masters program had to be brought forward into the Bachelors program. To enable this process, it was necessary to adopt more efficient teaching practices in the Bachelors program so as to accommodate this additional material while remaining within University workload guidelines. Currently, skills related to practitioner/patient contact points, tissue slack (skin slack), line-of-drive, and end-feel palpation are developed in the first year of the chiropractic sciences. These prerequisite skills are then further developed into those necessary for the diagnosis and treatment of chiropractic subluxations (adjustable lesions) in subsequent years. The overview of the current chiropractic technique curriculum within the Bachelors course consists of Chiropractic spinal palpation in first year, extremity management and spinal palpation revision in second year, spinal adjusting and extremity revision in third year. The first semester of the first Masters year is near fully dedicated to manual spinal adjusting. With TPT/FD introduced in the second semester, there is more time to set manual adjusting engrams into our students' nervous systems. The end of the first year Masters program completes the core adjustments. This enables our students to better manage patients when they enter clinic as interns. It should be noted here that the configuration of these core adjustment requires Departmental review.

The final year of the Masters program should no longer involve the teaching of primary skills but rather in the polishing of the core skills and the introduction of some “advanced” adjustments. Macquarie’s Chiropractic curriculum is now well situated for the introduction of elective skills modules. My vision is to allow students to design their final semester of chiropractic skills by selecting from a number of technique modules. These modules could be designed to run for six weeks allowing for two modules to be selected for the semester. Some examples of modules are: Activator, N.E.T., SOT, McKenzie, Advanced Gonstead, and Advanced Diversified. Each module would have to attract enough students to ensure economic viability. The intention of these electives is to expose our students to the diversity within our profession and therefore aiding in the understanding of our professional identity. However, the use of these techniques would not be allowed within our clinics unless deemed appropriate by the Department. More detail on our skills program can be found below.

2) BIOMECHANICS:

Biomechanics is the basic science that underpins what we do as chiropractors. Essentially, it is physics applied to the human body. Before biomechanics can be clinically applied (kinesiology), an understanding of this science’s basics is necessary. John Dulhunty’s intimate knowledge of biomechanics played an important role in the redesign of our biomechanics curriculum. A biomechanics stream was developed to run through each year of the Bachelors program. First year involves mostly simple ranges of joint motion for

relevant joints plus an introduction to basic biomechanics principles. The second year consists of an expansion of the biomechanics principles and then applies them to specific tissue types within the body (i.e., bone, muscle, tendon, etc.). Next, each region of the extremities is explored in greater detail (i.e., shoulder, hip, foot, etc.). Third year focuses on the spine and is then related to the mechanics of the adjustment. To my knowledge, no separate biomechanics stream is covered in the Masters Program.

3) PHILOSOPHY AND RESEARCH:

Although this is listed as the third component, it is certainly not the least. A discipline’s philosophy is what inspires an identity and in part, drives its research. The philosophy and research curriculum begins with chiropractic history; its beginnings in the United States, its early years in Australia, and the current state of chiropractic in Australia and internationally. Other historical aspects are covered later in the program after exploring the original vitalistic Palmerian philosophy. Modern philosophies are discussed with the assistance of information from Chiropractic associations, colleges, and organizations. Strategies for critical thinking are introduced to better equip our students with an ability to interpret conflicting sources of information. Finally, research methodologies are taught to help the students interpret the scientific literature. The intent of teaching critical thinking and research methodologies is not to create researchers but rather life-long learners. It is also to help generate a culture of research within the Department and the profession. These generic skills will

provide our graduates with the ability to make decisions based on levels of evidence rather than on hype and showmanship. By the third year of the Bachelors program, the students have enough knowledge of anatomy and physiology to appreciate some of the biologically plausible theories of chiropractic. It is at this point that the Philosophy and Research component shifts its focus onto these theories. A more formal, structured approach to the chiropractic theories is still needed for the third year and into the Masters program.

LEARNING AND TEACHING

IMPROVEMENTS:

Unit outlines are more uniform and consistent with one another. Their stated objectives have been updated to better reflect their nature while staying true to the approved curriculum. The process of aligning assessment tasks with these objectives has begun. Descriptions of unit assessments and the percentage they contribute to the overall grade have been clarified. Required and recommended texts are coordinated with the Co-op bookshop along with unit manuals. Weekly schedules of lecture and tutorial topics are published (usually within the outline). All skills units were made “on-line” in 2008 (most were on-line in 2007). The Principles component became assessed through written examination and through assignments. Clear expectations of these assignments are stated, published on Blackboard, and handed out in class. The marking sheets are designed to offer meaningful feedback from markers (assessors). Assignment due dates are scheduled to take into account appropriate time for student improvement based on feedback.

Skills assessments are becoming standardized across units and techniques. Results for practical assessments are returned to students with comments that illustrate where they have done well and where they need to improve. This practice is still on its way to becoming routine across all chiropractic skill units. Attendance forms are also standardized and their use is becoming consistent among units. The number of assessments per unit has been revised to allow for reasonable assessment, offer substantial feedback and yet remain within the University guidelines with respect to unit workload. Respect for the process of skills acquisition has been of significant focus. To this end, availability of supervised practice has been maintained through great effort. Endeavors to decrease the use of mock thrusting and to replace them with prudent real adjusting continue.

In 2007, the main skills room was updated with over \$70,000 worth of audiovisual equipment which provided the following improvements in learning and teaching:

- 1) Allowing clear audio and visual demonstrated of skills
 - a) The cameras mounted with opposing views ensure ideal view of procedures.
 - b) Remote control of cameras linked to control panel requires only one person for their operation.
 - c) Wall mounted monitors allows each student unobstructed views of demonstrations while maximizing floor space.
 - d) Cordless microphone permits amplification of faculty’s instructions while allowing free

- movement for demonstration of skills
- e) Audio portion of demonstration is linked through each monitor so that all students can clearly hear the instructions.
- 2) More time for practice
- a) Since each student will see the procedure when it is first demonstrated, there will no longer be the need for the tutors to repeat the demonstration. The students will have more time to practice the new skill and the tutors can spend more time improving the motor skills of the students.
- 3) Improved critiquing
- a) Students' skills performance can be video taped using both cameras and then be evaluated by the staff along with the students themselves.
- 4) Skills review
- a) Each skill demonstration can be recorded and played back

- immediately during the practice period or at a later time. (All recorded skill to be viewed "on-site" only)
- b) The additional opportunities to review skill demonstrations will enhance the proper formation of psychomotor skills.

This new equipment under went a one year trial in the CHIR103 and CHIR104 units. It was well received by the students and staff. In 2008, the use of this equipment was expanded to all chiropractic skills based units. In doing so, the method of teaching chiropractic skills was significantly changed and improved.

Also in 2008, the esthetics were upgraded to the main skills room. This upgrade consisted of installing a change room for students, a second sink for hand washing, new carpet, and new paint. These up grades created an improved environment for learning.

PRIMARY DIRECTIVES:

Graduate life long learners (research consumers),
Train specific manual adjusters
Provide an understanding of biomechanics, the fundamental science of chiropractic
Have students enter clinic with the ability to cater for all their patients' chiropractic needs
Generate a healthy sense of chiropractic identity
Align course with University policy and expectations
Implement best learning and teaching practices

MATTERS (ARISING FROM STUDENTS & STAFF) TO ADDRESS:

Uncontrolled costs
Excessive hours of student contact time
Poor student attendance to "main" tutorials
Not enough attention from tutors during "main" tutorials
Students treating patients before core skills acquisition (e.g., neck manipulation)
Reliance on non-manual treatment procedures in teaching clinic
Lack of consistency among tutors (quality and content)
Poor feedback policies
Poor hygiene
Tutor tardiness
Poor viewing of procedures (40:1) in "main" tutorials
Lack of fundamental biomechanics
Unstructured Principles lectures ("too much repetition", "where is this going?" over-reliance on uncoordinated guest lecturers)
Un-assessed Principles curriculum
Lack of adjusting/manipulating in class
Tendency for students to pause and "back out" while adjusting in clinic
Lack of practice time
Too many adjusting procedures
Pressure from timetable management
Introduction of new AV equipment and teaching methods
Increasing class sizes
Clarify unit objective
Align assessments with objectives

DETAILS OF SKILLS:

Bachelors Program:

Currently

- Year 1 has 1 hour lecture and 4 hours tutorial (hours 120 (96 skills))
- Year 2 has 2 hours lecture and 3 hours tutorial (hours 120 (72 skills))
- Year 3 has 2 hours lecture and 3 hours tutorial (hours 120 (72 skills))
(total hours 360 (skills 240))

Purposed Plan for 2010 (accompanied with decrease in Masters tuition)

- Years 1-3 will have 2 hours lecture and 4 hours tutorial (hours 144 (96 skills))
(Total hours 432 (skills 288))

YEAR 1:

Introduction to Skills-

Visual Assessment-

Postural Analysis

Introduction to Palpation-

Spinal Palpation-

Blind Palpation-

Muscle Assessment-

Bowen Lumbar procedures-

Bowen Cervical procedures -

Speed Drills/body drop etc.-

Muscle Assessment-

Massage/Soft Tissue Procedures

Western Massage

Sinus Drainage

Colon Cleanse

Grades of Mobilization-

YEAR 2:

Lower Extremity Palpation-

Lower Extremity Mobilization (grade 5)-

Muscle Assessment Con't.-

Soft Tissue(review)-

Speed Drills/Body Drop etc.-

Spinal Palpation Review-

Upper Extremity Palpation-

Upper Extremity Mobility (grade 5)-

Muscle Assessment-

Soft Tissue(review)-

Side Posture adjustment Set-up-

YEAR 3:

Extremity and Spinal Palpation Review-
Extremity Adjusting review-
Muscle Assessment Review-
Soft tissue (review)-
Thoracic Set-ups and Adjustments-
Pelvic Set-ups and Adjustments-
Lumbar set-ups and adjustments-
Cervical set-ups and adjustments
Speed Drills/Body Drops etc.-
Introduction to Gonstead

YEAR 4:

TECHNIQUE BREAKDOWN;

96 hours Diversified; 24 hours lecture, 72 hours tutorial

72 hours Gonstead; 24 hours lecture, 48 hours tutorial

36 hours TPT/Flexion Distraction; 12 hours lecture, 24 hours tutorial

Total 204 (skills 144)

Extremity and Spinal Palpation Review-
Extremity Adjusting review-
Muscle Assessment Review-
Soft tissue (review)-
Review Prior Adjustments-
Expand Spinal and Extremity Adjusting-
Gonstead Adjusting-
TPT
Flexion Distraction
(Complete core set of adjustments)

YEAR 5:

SEMESTER 1

24 hours of technique lectures (70% Diversified, 30% Gonstead)

36 hours Diversified

24 hours Gonstead Adjusting-

SEMESTER 2

Currently repeat of Semester 1

Future: (due to forward drawn technique instruction)

24 hours of technique lectures

12 hours of “polishing” tutorial (Diversified/Gonstead)

4 Elective technique modules of 12 hours tutorials

Students would select two modules

Total 168 (120 skills)

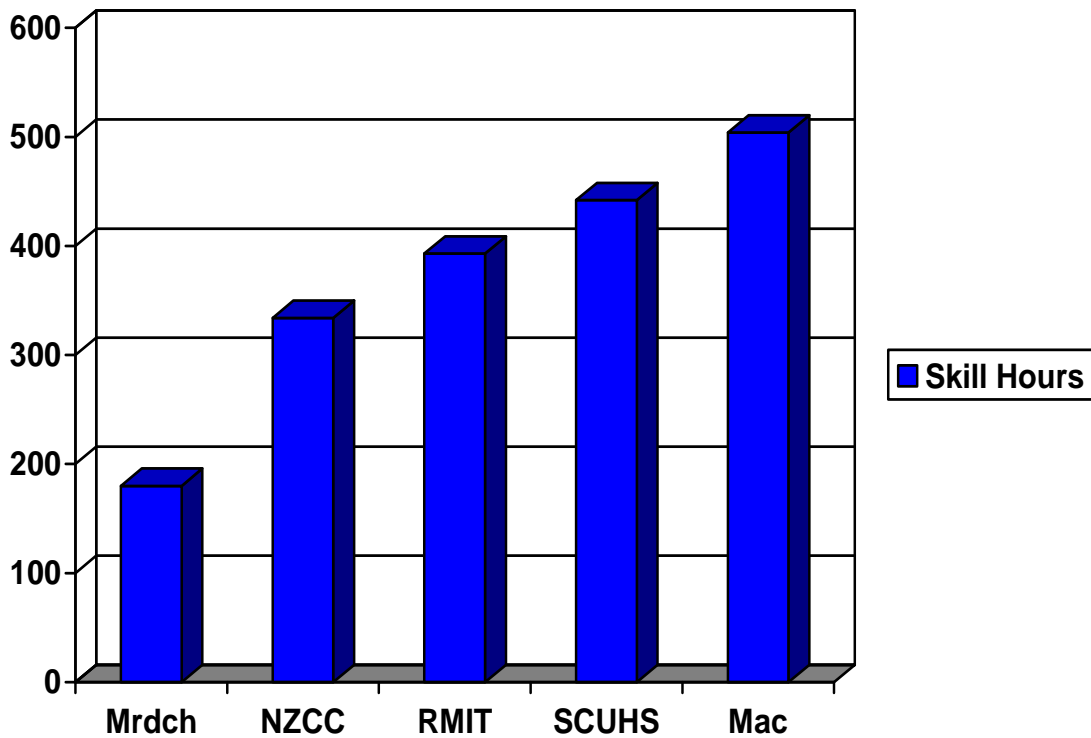
TOTAL HOURS OF PRINCIPLES AND PRACTICE = 732 (SKILLS 504)

COMPARISON WITH OTHER SCHOOLS PRACTICAL HOURS:

Table of practical skills hours

SCHOOL	TOTAL HOURS ON SKILLS	SOURCE
Macquarie	504	Skills Director '08
Murdoch	180	Online outlines '08
NZCC	334	Outlines 2006
RMIT	393	Outlines 2006
SCUHS	442	Memory 2003

Graph of practical skills hours



Macquarie's Chiropractic curriculum has 49% above the mean technique hours among the above schools. This fact refutes the notion that our program doesn't have enough technique hours. Understandably, this high number of hours can be a source of pride. However, I am firm on the stance that we could be more efficient with our technique teaching.

Worthy of note is Macquarie's student to tutor ratio of 10:1. The best any other school in the region is 20:1.

HISTORICAL PERSPECTIVE:

Previously, chiropractic skills were taught using a three-tiered system. First, material for skills instruction would be covered in lecture. Second, the “Lead Tutor” would demonstrate the skills to an average group of 40 students in a “main” tutorial that was staffed with a full troop of support tutors. Third, the students would be allowed to practice the new skills in a “practice” tutorial that could be several days after the first two tiers. Poor visibility of the demonstration in the “main” tutorial combined with the time delay before the “practice” tutorial required repeating the demonstration of skills.

ISSUES:

From Tutors: Poor attendance by students at lectures and main tutorials
Poor attendance by support tutors in “main” tutorials

From Students: Not enough assistance from tutors in Main tutorial
Not enough time to practice in Main tutorial
Time wasted though repetition (Practice tutorial enough)
Lack of consistency between Lead tutor and Support tutors

From Department: Time & money wasted on redundancy (i.e., lecture, main, practice)
Main tutorial very costly to have tutors sitting around while Lead demonstrates and little time for guided practice

SOLUTION:

- Make students responsible for tutorial preparation by assigning readings on up- coming skills; thus freeing up lecture time.
- Combine “Main” tutorials with “Practice” tutorials so that Lead demonstrates and students practice with guidance from support tutors
- Lead tutor remains present to insure consistency and quality among tutors
- A/V equipment improves sight and sound for demonstration by Lead
- Standardize ratios in all skills units to 10:1 and when possible plus the Lead
- Inform tutors of responsibilities via induction meeting and related document

ADDITIONAL SOLUTIONS BY WAY OF MANDATES / POLICIES:

- Teach essential skills earlier. Take material from Masters into Bachelors program
- Focus on manual adjusting skills early in program to allow more practice
- Allow and encourage students to adjust in tutorials
- Minimize exposure to the “Mock-thrust”
- Identify “Core” adjustments and rationalize the number of adjustments
- Return all assessment forms to students
- Note feedback in attendance forms
- A/V equipment to maximize skills room usage
- Standardize assessment forms
- Standardize unit outlines
- Align assessments with objectives
- Train more tutors in A/V use
- Inform tutors of responsibilities via induction meeting and related document

HYGIENE ISSUES:

HISTORICAL-

Use of towels to cover benches was not enforced
Headpieces were not covered by face paper or towel
Sinks had no soap available and were dirty
Only one sink in largest skills room and was very small
Tables were not wiped down (disinfected)
Pillows stored on floor

SOLUTIONS PHASE I-

Post and police hygiene rules (i.e., towels)
Provide paper towels to ensure barrier between student and headpiece
Install soap dispensers at all sinks
Have sinks cleaned regularly
Purchase table wipes for disinfecting tables between uses
Store pillows in cupboard

NEW HYGIENE ISSUES-

New tables not vinyl and therefore unable to disinfect between uses
Tutorial rooms full of paper towel mess
Paper towels not sufficient barrier for face and table
Minimal hand washing
Poor policing by tutors

SOLUTIONS PHASE II- (current)

Have benches professionally cleaned at end of semester or annually
Make students responsible for covering headpiece with towel
Add additional sink to large skills room (maximum for room)
Reiterate importance of hygiene to tutors
Inform tutors of responsibilities via induction meeting and related document
Promote hand washing

SOLUTIONS PHASE III- (future)

New tables will be covered with vinyl for regular cleaning
Introduce waterless hand washing in skills rooms
Implement noncompliance policies
Recover existing tables with vinyl, as repairs are needed

FINAL REMARKS:

I have worked diligently during this short period of time as Director of Principles and Practice to try and accomplish some of the goals as set by the Department from its strategic plan and values days. The implemented changes were the result of a collaborative effort by many in the Department and by the Contract Staff. More work is required. The ball is rolling and hopefully it does not lose momentum as a result of my absence. I would like to express my gratitude to Roger Engel at this time. His contribution to the skills area has been important. It is our alignment with regards to technique that enables us to work well as a team. Thank you, Roger.

As always, I am happy to respond to any questions and to hear any ideas for continued improvement. I love talking chiropractic. I love becoming a better academic. In the end, it's win, win, win, and win (students, Department, profession, and patients).