



Health and safety in hairdressing

▼ AN EVALUATION OF HEALTH AND SAFETY MANAGEMENT
PRACTICES IN THE HAIRDRESSING INDUSTRY



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CONTENTS

SUMMARY	4
DISCLAIMER	5
GLOSSARY	5
INTRODUCTION	6
Methodology	6
Description of the Industry	6
Industry Organisations.....	7
Communication Within and to the Industry	8
Previous Studies and Injury data	9
Harm in Hairdressing – a brief overview	9
Present Health and Safety Guideline – Guide to Occupational Safety and Health for the Hairdressing Industry (1997).....	10
HEALTH AND SAFETY ISSUES ARISING FROM THE WAY HAIRDRESSERS WORK	12
Basin Tasks.....	12
Working on the hair with scissors and comb.	14
Fingers and Finger Hold	15
Cutting	15
Barbering.....	27
Blow Waving.	27
Applying Colours, Bleaches etc. (includes using foils)	31
Perming.....	31
Straightening Hair.....	32
Eyesight	33
Cuts to the Comb Hand.....	34
Musculoskeletal Disorders	34
Hairdresser Work Management Practices	36
Hairdressers’ Self management.....	37
How to Change Your Technique and Equipment	37
Keeping Healthy and Fit	38
HEALTH AND SAFETY ISSUES FROM CHEMICAL USE	39
Dermatitis.....	39
Gloves.....	41
Wet Work that can cause irritant dermatitis	42
Chemicals contained in Colours and similar products	42
SALON MANAGEMENT	43
Hours of Work and Recovery Breaks	43
Work Management Practices	44
EQUIPMENT, FURNITURE AND SALON DESIGN	46
Equipment	46
Salon Design	52
Anthropometric Data	52

TRAINING	54
Initial Training	54
Safety Management and National Certificate in Hairdressing Management	55
Training in Health and Safety	56
PRODUCTS, PRODUCT SUPPLIERS AND THE COSMETICS, TOILETRY AND FRAGRANCE ASSOCIATION OF NEW ZEALAND (CTFA).....	58
COMPETITIONS	60
A STRATEGIC SAFETY PLAN FOR HEALTH AND SAFETY IN THE HAIRDRESSING INDUSTRY.	61
A "We Care" programme.	61
Research and development programmes	61
One Beauty Care Industry	61
Registration of Hairdressing Salons and a Code of Practice	61
CONCLUSIONS.....	63
RECOMMENDATIONS	64
Equipment design and selection	64
Salon Design	64
Technique	64
Work Organisation	64
Training.....	65
The Big Picture	65
Further study	65
Other	66
REFERENCES	67
APPENDIX A: PREVIOUS STUDIES AND INJURY DATA.....	68
APPENDIX B: BREAKS AND EXERCISES	70
APPENDIX C: BODY MEASUREMENTS (ANTHROPOMETRIC DATA)	74
APPENDIX D: CONSULTATION	76

SUMMARY

Hairdressing poses significant risks of musculoskeletal disorders and dermatitis for Hairdressers

Hairdressers suffering musculoskeletal discomfort, pain or injury means decreased job performance, lower productivity, increased time off work and possible early retirement from the hairdressing profession.

The causes of this harm to workers in the Industry are largely known.

Ways to prevent this harm exist but are not so well known.

Hairdressers can protect themselves from harm.

There is no reason why any new entrant to the Industry should have to leave the profession because of work related muscle, joint or tendon discomfort or harm.

Rarely should a hairdresser or apprentice have to leave the Industry because of dermatitis.

There are ways of changing techniques and practices without stress.

The Industry can largely eliminate for new entrants and reduce for existing hairdressers, the stress of pain in the muscles, tendons and joints.

Hairdressers, tutors and salons need the courage to take on change in work techniques and work practices.

The Hairdressing Industry (or preferably the Beauty Care Industry) needs to develop and implement a strategic plan to achieve a major improvement in caring for those working in the Industry.

The Industry cares more for its clients than it does for the people working in the Industry.

The Industry could adopt an ethos of "We Care" for our members.

DISCLAIMER

The purpose of this evaluation was to gather information from the Industry and identify areas where improvements in harm prevention can be made.

The suggested interventions and recommendations are those of the writer and are given in good faith and in the belief that they are not false or misleading.

GLOSSARY

Beauty Care Industry	Includes hairdressing, beauty therapy, nail augmentation, manicure, pedicure and skin care.
Hairdresser	Includes qualified hairdressers, apprentices and student trainees. Qualified hairdressers have achieved a National Certificate in Hairdressing or Barbering.
Hairdressing	Includes Barbering.
HITO	NZ Hairdressing Industry Training Organisation Inc
Industry	Includes organisations that are part of and relevant to the Hairdressing Industry.
MSD	Musculoskeletal Disorders. These include overuse syndrome, OOS, RSI, carpel tunnel, tenosynovitis, soft tissue injuries and other related diagnosis.
Section	A small section of hair
Technique	How a person carries out a task or action.
Practices	How the management of a salon or a person organises their work.

INTRODUCTION

This evaluation was commissioned by the Workplace Services Group of the Department of Labour as part of its Occupational Health Programme.

Project Aim	To evaluate the present state of health and safety management practices used to reduce the risk of injury and disease in the Hairdressing Industry.
Project Outcomes	A written evaluation of the present state of health and safety management practices used to reduce the risk of injury and disease in the hairdressing industry, (particularly in relation to the prevention of musculoskeletal disorders and chemical exposures) and written advice on possible future actions that the Industry, the Department of Labour, employers, workers and other industry participants could take to reduce these risks.

Methodology

This report is based mainly on anecdotal information gathered from people working in or supporting the Industry.

Visits were made to a number of Hairdressing Salons and Training Schools to talk to and observe hairdressers, apprentices and trainees performing hairdressing tasks.

A number of telephone interviews were held.

Dermatologists (including one from Australia), Occupational Physicians, Physiotherapists and Ergonomists were consulted.

Discussions were held with Industry Organisations including the NZ Association of Registered Hairdressers and the NZ Hairdressing Industry Training Organisation Inc.

A limited literature search was made.

Description of the Industry

The structure of the New Zealand Hairdressing Industry is described below:

- The number of hairdressing salons: 2600
 - The average number of staff in a salon: 3.5
- The number of hairdressers: 8500.
 - The number of qualified hairdressers: 4000
 - Gender: 93% Female
- The number of continuing apprentices in 2005 :1443,
 - The number of students receiving a student component funding from the Tertiary Education Commission in 2005: 2127.

Most salons open from 9.00am until 6 or 7 pm on Tuesday and Wednesday, from 9.00 am until 9.00pm on Thursday and Friday and on varying hours on Saturday. Some salons open on Monday.

The hours interfere with normal family life and can be stressful for those with children.

Anecdotal information suggests that many Hairdressers stay in the profession initially for 6-7 years. Many return to the Industry later.

For some hairdressing is a highly desired career. For others it is a career that one can easily move in and out of.

Industry Organisations

The New Zealand Association of Registered Hairdressers Inc (NZARH).

The New Zealand Association of Registered Hairdressers Inc. (the Association) is the umbrella organisation for 15 Regional Associations run by hairdressers for hairdressers, and is the only organisation in New Zealand that is truly representative of the needs of hairdressers in business today.

The Association was set up to give support to salon owners and employers of hairdressing apprentices. It also promotes high industry standards and ideals and gives hairdressers the opportunity to show their creative and commercial skills in a competitive environment through regional and national hairdressing awards.

The Association's aim is to help members with advice on the myriad of issues surrounding those in business today, with information to help deal with legal, insurance and employment issues as well as with the everyday problems that are encountered.

The Association has a membership of approximately 700 salons. To be a registered member of the Association the salon is owned or managed by or employs at least one qualified hairdresser.

Many of its members are practicing hairdressers and those interviewed have shown a concern for the safety and health of those working in the Industry.

The Association produces a quarterly magazine.

Out of the real health and safety situation as given to this evaluation, an additional purpose could be added to the purpose of the Association.

"The purpose for undertaking training of apprentices is to enable them to achieve their ambition of a successful career in hairdressing and work in this career for as long as they wish without injury or harm to their health".

The NZARH Competitions Committee.

The Association organises a competition programme each year. The competitions are judged on the finished style only.

The recognition of 'good practice' or 'safe technique' could be included as a feature of the judging.

The NZ Hairdressing Industry Training Organisation Inc (HITO).

The NZ Hairdressing Industry Training Organisation Inc sends out an annual newsletter to all salons listed in the Yellow pages along with newsletters to apprentices, apprentice employers and the training providers.

HITO Qualifications Advisory Committee.

Not interviewed.

HITO Regional Apprenticeship Committees.

Not interviewed.

The Cosmetic, Toiletry and Fragrance Association of New Zealand (CTFA) and the Salon Marketers Group.

Part of an International group (based in the USA) that represents the interests of the companies that market cosmetics, toiletries and fragrances in New Zealand. The CEO is based in Auckland.

The Hairdressing Forum of training providers which operates under the Institute of Technology and Polytechnics.

The head of this organisation is based in Wanganui. The Forum had a major input into the development of US 20929.

Private Training Providers Group

Not interviewed. Presents a conference every 2 years.

Communication Within and to the Industry

The Industry is fortunate in having several communication channels to salons and hairdressers.

The NZ Hairdressing Industry Training Organisation Inc sends out an annual newsletter to all salons listed in the Yellow pages along with newsletters to apprentices, apprentice employers and the training providers.

The members of the Salons Marketing Group whose members supply products to the Industry, visit most if not all registered salons on a 3 to 6 weekly basis.

The suppliers of all salon products and equipment are in contact with salons in their coverage area and some operate throughout New Zealand.

The NZ Association of Registered Hairdressers communicates with its members with a quarterly newsletter.

There are several magazines with a wide circulation.

These communication channels make it possible to develop a co-ordinated written and a face-to-face communication programme for health and safety promotion.

Previous Studies and Injury data

Appendix A contains detailed information on three previous studies in the industry and injury data from the ACC.

Summary of the three studies

1. Pamela Powers (Department of Labour) conducted a survey of 70 hairdressers in the Nelson/Marlborough area in 2002-03. The survey found that over 50% then had or had in the last 5 years suffered an overuse disorder. Ten percent had or had had dermatitis at the time of the survey.
2. Louise Malcolm carried out a study resulting in an M.Sc. Thesis: Musculoskeletal Disorders in New Zealand Hairdressers. (2005). This study examined Kieran Janes's scissors and cutting techniques and concluded that further investigation was warranted to evaluate the scissors with a larger population.
3. A HITO survey of apprentices who did not complete their training in 2005 showed that 5.3% did so for medical reasons

ACC data

Data and information on claimants from the Hairdressing and Barbering Industry are included with Beauty Therapy, Nail Bars, Manicure and Pedicure. Comments on the combined industries data are shown in Appendix A. In the different categories for entitlement and medical fees, increases ranged from 3 to 28% for the 3 years from 2002-3 to 2004-5.

Anecdotal information

Anecdotal information gathered during the evaluation supports the view that discomfort, pain and injury in muscles, tendons, ligaments and joints are prevalent in the Industry.

Anecdotal information suggests that dermatitis is present in many salons.

Harm in Hairdressing – a brief overview

Musculoskeletal Disorders

Musculoskeletal Disorders (MSD) include overuse syndromes (otherwise known as 'OOS', 'RSI', 'carpal tunnel' or soft tissue injures) and other related diagnosis.

MSD include sore feet, backs, necks, shoulders, arms, elbows, wrists, hands and fingers.

There are salons with no reported history of MSD for over 10 years. In some salons most staff had MSD symptoms at the time of the survey. Some hairdressers who have been on the point of leaving the Industry, but who have

changed their techniques and equipment, are still in the Industry with no or little pain.

Some hairdressers who have pain from an MSD say it is part of being a hairdresser and they are carrying on no matter what. Some of these showed a resistance to changing their techniques – it being regarded as too hard and too much bother. Discussions suggested that salons with a known local clientele and a harmonious environment have a lower prevalence of MSD.

The lack of data on discomfort, pain and injuries occurring in the Industry shows a need for sources of information other than the ACC. A research study would be one way of gathering this information, but would have to be repeated in two – four years time to measure the effect of any preventive measures undertaken. An annual source of information should be sought.

Some effects of Pain

Pain arising out of MSD and dermatitis reduces the worker's ability to have and maintain good client relationships throughout the day, to concentrate on the task in hand, to work efficiently and to apply the correct safety practices and techniques.

Pain is debilitating and removes satisfaction in the job and the desire to continue in the profession. Pain can result in a hairdresser leaving the Industry, foregoing their investment in time and money in learning the skills of hairdressing, and requiring new investment in an alternative profession – that they can manage with their pain.

Dermatitis

Many cases of irritant contact dermatitis are reported to occur, often early in training at the salons. Most achieve control and recover but there are some instances of workers leaving the Industry for this reason. Conversations at many salons suggested that the number of cases seems to have reduced from 5-10 years ago.

Contact with chemicals can result in allergic contact dermatitis, usually after some years in the Industry. Some of these cases have to leave the Industry – taking their sensitivity to some chemicals with them.

As with MSD, there is a lack of data on the number of cases occurring, recovery rates and the numbers leaving the Industry for this reason.

Present Health and Safety Guideline – Guide to Occupational Safety and Health for the Hairdressing Industry (1997).

This Guide was produced by the Association in ????. Pamela Powers Survey in the Nelson/Marlborough region in 2002-2003 found that 21% of salons there had a copy.

The Guide is currently being revised. The ACC has undertaken to pay for the printing. A copy will be distributed to every salon in New Zealand. The Association intends to update the content and communication style.

The Introduction states "...and aims to encourage employers to set up a health and safety system in response to the requirements set out in the Act and Regulations (Health and Safety in Employment Act 1992)". This objective is still valid.

Other objectives could include assisting experienced hairdressers to add to their knowledge and development of better skills, good task procedures (techniques and practices), ACC procedures, rehabilitation of injured persons, criteria for the selection of equipment and products, a model design brief for new and renovation of salons, a fitness, exercise and general health information and programme.

The ACC is presently producing a new guide on the prevention of MSD. This could provide information for the Guide.

An OHS&W Guide for the Hairdressing Industry in South Australia has just been produced by the Hair & Beauty Industry Association of South Australia. Before proceeding further with the NZ Guide, the value of the content in the South Australian Guide should be studied.

In the light of these reports, the purpose and contents should be reviewed with Industry input.

There is a place for a Guide on Health and Safety matters in the Industry.

The content should parallel the Health and Safety content of the training provided to trainees. The Guide should contribute to the knowledge and skills of the Industry, and, provided it is regularly updated, should facilitate the adoption of change in the areas of safety, health and the prevention of harm from MSD and chemicals.

HEALTH AND SAFETY ISSUES ARISING FROM THE WAY HAIRDRESSERS WORK

This section, which considers the tasks carried out by hairdressers, presents information in a common format:

Observations	These are based on visual observations, discussions while visiting hairdressing salons or on the telephone with members of the Industry and supporting persons like product suppliers and dermatologists.
Risks	The risk of musculoskeletal discomfort, pain, injury or harm from exposure to chemicals.
Interventions	These include actions and activities that the hairdressers and supporting organisations should or could take. The interventions are based on known interventions, observed more desired techniques and practices and opinions based on the writer's accumulated knowledge and skills.

Basin Tasks

Shampoo and wash out colours etc. Apprentices can work all day on this task.

Observations¹

1. Washing hands frequently takes oils out of the skin and lowers the pH of the skin.
2. A number of salons were equipped with free standing basins – See Figure 1.
3. For comfortable use, the top of the basin should be below the elbow when the upper arm is in a vertical position – See Figure 2.
4. All the basins observed were of a fixed height design and many were attached to the wall – See Figure 3.
5. Shorter operators have to reach up and over the edge by lifting their shoulders and moving the elbows out from the body. This makes it difficult to apply the necessary force to wash, rinse and massage the hair. No footstools or platforms were in use that would have improved the height of the hairdresser.
6. Working from the side of the basin requires bending and twisting the spine and reaching across the client's head to wash the far side of the head. The wrists are bent.
7. The back, shoulders, arms and wrists are working outside the desired range of movement.

Risk

1. Discomfort, pain and possible MSD injury.

¹ Thanks to Angeline Thornley and her daughter Sharon for the illustrations in this report.

Figure 1: Figure 1. Standing behind a free standing basin. Desirable- no twisting.



Figure 2: Figure 2. Massaging the hair



Figure 3: Figure 3. Difficult side access to the basin – Undesirable.



Interventions

1. Basins should be free standing – See Figure 1.
2. The taps and nozzle should not interfere with the hairdresser's access to the client's head.
3. Hairdressers should stand behind the basin or move around the basin to use the most comfortable position.
4. A preferred position is to work from the back of the basin and limit the back movement to reaching forward. This position will also improve the wrist angles – See Figure 2.
5. See more comments in the section 'Equipment, Basins'.
6. The design and use of basins should be reviewed by the Industry and product providers.

Working on the hair with scissors and comb.

This includes the tasks of cutting with scissors or a razor and blow waving.

Salon operators agreed that these tasks are considered by to be the main contributors to discomfort, pain and MSD.

The basic skill required in these tasks are the presenting of a section of hair in the comb or fingers to the cutting tool or a section of hair on the brush to the dryer. The section needs to be in a position to be clearly seen. The task begins with the techniques and skill in handling the comb or brush.

Combing

Combing determines the position of the section to be worked on. The technique of holding and working the comb can determine the postures adopted for the rest of the task.

The comb can be held with a knife grip (as in a table knife – See Figures 4 and 6) over the comb or from below with a spoon grip (K Janes – See Figures 5 and 7).

The spoon grip:

- allows the comb to be rotated in the fingers and reduces the movement of the wrist
- assists in positioning the elbow below the shoulder and closer to the side of the body.
- requires a longer comb.
- There is more information in the section on combs.

Fingers and Finger Hold

A section of hair is held between the fingers and then cut with the scissors or a razor.

Observations

1. There are two ways of holding the section of hair:
 - a. between the first and second fingers side by side (See Figure 18.)
 - b. between the first and second fingers with the first finger under the second finger. (K Janes - See Figures 8 and 9).

Risk

1. Discomfort and pain in the finger muscles.
2. Cuts to the skin between the fingers

Interventions

1. The crossed finger grip is preferred. There is a difference in the force the fingers can exert when moved sideways and when moved up and down. Less effort is needed for the crossed finger grip.
2. Fingers pressed together sideways, do not press evenly against each other and there can be gaps where there is no or a reduced grip on the hair.
3. Fingers pressed together one on top of the other, have no gaps and so provide a grip on all of the hair in the section
4. The fingers, one on top of the other, close the gap between the fingers and protect the skin from scissor cuts.
5. With crossed fingers, the section is presented on a different angle and this reduces the rotation of both wrists.

Cutting

Factors that allow good presentation of the section and easy cutting include:

- The comb, its length and how it is held.
- The movement of the comb. ***
- The finger grip on the section.
- The design of the scissor, razor or dryer.
- The grip used and the movement of the tools***.

Observations

1. Included these **undesired** positions and movements.

- a. The back bent like a banana – See Figure 10.
 - b. The back twisted – See Figure 11.
 - c. The head bent over – See Figure 11.
 - d. The elbows above shoulder height and in a static position – See Figure 11.
 - e. Cutting from above – See Figure 12.
 - f. The shoulders lifted.
 - g. The wrists bent fully and rotated beyond the mid-range of movement – See Figure 13.
 - h. A static position held for more than a minute.
 - i. “When I get a sore back I use a cutting stool.”
2. Other hairdressers demonstrated these desired, ‘good practice’ positions and movements
 - a. The back upright and in a neutral position with no twisting – See Figure 14.
 - b. Adjusting the height of the client’s head by adjusting the chair height and using the stool to enable good arm and wrist positions to be in the mid range of their possible movements up – down or sideways – See Figures 15 - 22.
 - c. The elbows between the side of the body and out to 45 degrees. Occasional movement up to shoulder height.
 - d. Static positions held for less than 5 seconds.

Figure 4: Knife Grip of the Comb – elbow out, shoulders maybe raised - Undesirable



Figure 5: Spoon grip of the comb – elbow not held out – Desirable.



Figure 6: Knife handle grip - Undesirable



Figure 7: Spoon grip with elbow down – Desirable.



Figure 8: Combing using a spoon grip with the elbow down - preferred.



Note also the 'finger crossed' grip – the bottom of the second finger is pressing against the top of the first finger – Desirable.

Figure 9: Combing using a knife grip with the elbow up - Undesirable.



Figure 10: Bending forward – Undesirable.



Figure 11: Back slightly twisted and head bent over – Undesirable



Also - pistol grip of dryer with elbow up undesirable.

Figure 12: Cutting over the top of the head. Undesirable elbow and wrist position.



Figure 13: Figure 13. Standing. Undesirable elbow height and wrist angle.



Figure 14: Using stool and sitting erect with the back in its natural curve – Desirable.



Figure 15: Sitting with client's head at a convenient level. Elbow down and wrist straight – preferred.



Figure 16: Showing the desirable comb and scissor hold.



Figure 17: Section held closer to the head and in a lower position with the elbow down - Desirable.



Figure 18: Shows the finger hold. The section is lower and close to the head. The right wrist is in a neutral position – Desirable.



Figure 19: Bending forward. This position causes an undesirable bending of the right wrist.



Figure 20: Section lowered and arms lowered – Desirable.



Figure 21: Section lowered below the top of the head and arms now in a desirable position



Figure 22: Section held out from the head with the elbow up (undesirable position).



Risks

1. The undesired postures and movements contribute to the risk of discomfort, pain and MSD.

Body heights

1. To allow the above 'good practice' techniques requires the hairdresser to adjust their own and the clients body heights. This can be achieved by:
 - a. Altering the height of the client chair at the beginning **and during the task**. (See the section on chairs), and
 - b. Adjusting the hairdresser's height by sitting on a stool and adjusting the height of the stool **during the task** – See Figure 14.

Interventions

1. A 'good practice' technique for cutting hair should be developed and adopted by the Industry.
2. Those teaching and training apprentices and new entrants to the Industry need to adopt and use 'good practice' techniques, as example and demonstration are essential to the learning process. It is very difficult to teach a technique that the teacher does not use.
3. To avoid discomfort and pain and for those with pain, hairdressers need to evaluate their techniques, consider the risks and, embark on a planned change process.
4. Those who teach cutting techniques have a responsibility to demonstrate and use 'good practices and techniques'.

5. Scissors that allow the wrists to be in a neutral, mid range of movement and the thumb movement towards the first finger should be used. See section 5.1 for information on scissors.

Barbering

The tasks and techniques of hair dressing apply to barbering. Clippers are an addition tool and task.

The use of the clippers produces very short pieces of hair that float in the air and can enter body openings and the skin.

Observations

1. Dry hair being cut that floats in the air.
2. Tufts of wet hair than can fly off the comb.
3. Ordinary clothing with open necks and tops not reaching below the waist.
4. Open type shoes.

Risk

1. The entry of short lengths of hair into the skin or body openings causing irritation and possible infection.

Interventions

1. Wet the hair and keep it wet.
2. Avoid flicking the comb and clippers.
3. Wear clothing or preferably an apron that covers the whole body.
4. Avoid shaking the apron after use.
5. Wear closed type shoes.

Blow Waving.

This task involves moving the hair with a brush and directing hot air onto the section from a dryer.

Observation

1. Included these **undesired** positions and postures.
 - a. The relative heights of the client's head and the hairdressers arms being outside the desired range requiring bending, stooping and undesired wrist angles – See Figures 23 and 24.
 - b. The elbows were above the shoulder.
 - c. The dryer arm being held at a constant height with static muscles for an undesired length of time.
 - d. Using the pistol grip of the dryer all the time.
 - e. Repetitive twisting of the brush wrist for undesired periods of time.
 - f. Rapid twisting of the wrist (dryer). How rapid do these movements need to be to ensure the temperature felt by the client is comfortable and achieves the desired level of fluffing?
 - g. Twisting of the dryer wrist beyond the mid-range of movement when using a pistol grip.
 - h. Bending and twisting the back to see the section.

2. Other hairdressers included these **desired**, 'good practice' positions.
 - a. Adjusting the height of the client's head and using a stool to enable good arm and wrists positions and movement with good vision of the section – See Figures 25 - 27.
 - b. The elbows below the 45 degree angle most of the time.
 - c. Holding static arm positions for less than ten seconds at a time.
 - d. The dryer arm being regularly relaxed by lowering it to straighten the arm when changing position around the head.
 - e. The use of both pistol and barrel grips of the dryer to suit the position of the section.
 - f. Twirling the brush instead of twisting the wrist.
 - g. Maintaining an erect back posture.
 - h. Alternating the hands holding the dryer and brush during the task.

Risks

1. The undesired postures and movements contribute to the risk of discomfort and pain.

Interventions

1. Develop and adopt a 'good practice' technique for blow waving.
2. In the meantime adopt the observed desired techniques listed above.

Figure 23: Pistol grip of dryer with elbow up – undesirable.



Figure 24: Pistol grip of dryer with elbow up – undesirable.



Figure 25: Barrel grip of dryer with elbow down – desirable.



Figure 26: Barrel grip of dryer with elbow down – desirable.



Figure 27: Barrel grip of dryer – desirable.



Applying Colours, Bleaches etc. (includes using foils)

These tasks involve applying colour etc to the hair or to sections of the hair, placing a piece of foil under the section, applying colour or other material with a brush, folding the foil to cover the section. The use of foils requires a clear view of the section.

Protection from chemicals is considered in the section on Dermatitis and Chemicals.

Observations

1. The following **undesired** positions and movements were observed.
 - a. Bending forward and twisting the back.
 - b. Elbows above the shoulders.
 - c. A shoulder lifted.
 - d. Undesired wrist angles.
 - e. Bending the knees.
 - f. Not adjusting the height of the chair.
 - g. Not using a stool or not adjusting the stool height.

2. Other hairdressers included these **desired**, 'good practice' positions and movements.
 - a. Having the client's head at the optimum height for the top half of the head and using a stool for the lower half of the head to enable good arm and wrists positions and movement, with good vision of the section.
 - b. Elbows below the 45 degree angle.
 - c. Shoulders down.
 - d. Standing erect and keeping the back in a neutral position with no twisting

Risks

1. The undesired postures and movements contribute to the risk of discomfort, pain and possible MSD.

Interventions

1. Adjusting the height of the client's head and using a stool to enable desired arm and wrists positions and movement and, with good vision of the section.
2. Standing erect without twisting.
3. Using a technique that keeps the shoulders level and the elbow below 45 degrees.
4. A 'good practice' technique for colouring hair should be developed and adopted by the Industry.

Perming

The winding-on of rollers and applying permanent waving material.

Observations

1. The task can take up to an hour.
2. The task requires precision finger work and concentration.
3. The hairdresser can carry out the whole task without a break.
4. Not matching the height of the work sections with the desired hand height causing bending over and some twisting.
5. Wrists bent beyond the mid-range of movement.

Risks

1. Fatigue and discomfort, pain and possible MSD in the fingers, wrists and back.

Interventions

1. Use a stool and adjust it frequently.
2. Make frequent changes in client height and vary the hairdresser's postures and so avoid undesired postures.
3. Alternating standing with sitting to reduce the standing time.
4. Find a reason to walk away from the task for 10 seconds every 10 minutes during the task.
5. Do exercises - stretch and flex the shoulders, arms, wrists and fingers.

Straightening Hair

Some straightening methods can take up to four and a half hours. During part of this time straightening tongs are applied to the hair, section by section. The tongs are held in a closed position and pulled down the length of the hair. This is hard work especially for the hair on the top of the head. With long hair, the pulling stroke could be 500mm long. The hair should be pulled out at right angles to the head.

Observations

1. Elbows and arms above the shoulders.
2. The tongs are held at right angles to the line of movement and this puts strain on the wrists.

Risks

1. The development of discomfort and pain from the shoulders to the fingers.

Interventions

1. Sharing the pulling work with another hairdresser.
2. Alternate the hands holding the tongs.
3. Frequently lowering the arms and, stretching and relaxing the shoulders, arms and wrists and fingers.
4. Consider moving the feet to move away from the client as the tongs move down the section.
5. Have the client sitting as low as possible – Note that a chair that allowed the client to lie back might make this task easier.

Eyesight

Hairdressers need to be able to see properly to do the work accurately and safely.

Where a hairdresser's vision requires correction (glasses or contact lenses) but this is not used, postures can be affected. For example, as the hairdresser leans back to bring a section of hair into focus - this can result in bending and twisting of the back and bending of the neck.

Technique and eyesight together contribute to accurate and efficient output. A hairdresser who is short sighted will adjust their body position to achieve clear vision.

This will almost always happen unconsciously. This is because humans are very poor at:

- detecting the state of their eyesight and
- realising that their bodies make *automatic* corrections so that the relation between eye position and work position are optimum.

Accurate placement of all the equipment is required to work safely for the client and the hairdresser's sake. The picking up of a section and application of a cut with the scissors is a precise and accurate movement.

The resulting combination of muscle and visual fatigue can result in headaches and add to overall body fatigue.

Observation

1. Hairdressers bending and twisting the back to place the head in a position for clear vision.
2. Bringing the eyes and head closer to the client's head for better vision interferes with the desired positions and movements of the hands, arms, shoulders and back.
3. Bending the neck forward.
4. Young people predominating in the industry – glasses not being so prevalent, along with a tendency to prefer contact lenses

Risk

1. Causing undesired posture and thus contributing discomfort, pain and possible MSD.
2. Can cause headaches.

Interventions

1. If the hairdresser can't see the work when standing erect, then vision correction (glasses or contact lenses) should be worn. Prescription glasses would have the advantage of providing some protection to the eyes.
2. When visiting an Optometrist the hairdresser should discuss the tasks to be performed and mime them. This will allow the Optometrist to identify the distances from the eyes to the work when standing erect and sitting.

3. A variety of corrective types are available – bifocals, trifocals, progressive lenses or lenses specially provided for the work in question.
4. The hairdresser's hands are often below the level of the eyes and the hairdresser looks down at their hands. Looking down can be achieved by:
 - a. the eyes looking down
 - b. the head tilting forward at the joint with the neck or
 - c. the neck bending.
5. To lessen the load on the neck muscles, use the eyes to look down and tilt the head. It may take a little while to learn to tilt the head instead of bending the neck. Using tilting will reduce the risk of an MSD.
6. How to tilt the head:
7. To tilt the head, look straight ahead, and then tuck in the chin. This will tilt the head forward at the top joint of the spine with the head. Practice is needed to do this 'tuck and tilt'.
8. Wear glasses when handling chemicals, especially when mixing,

Cuts to the Comb Hand.

Cuts to the comb hand in the skin between the fingers occur from time to time.

Observations

1. Cuts to the comb hand occur to hairdressers at some time.
2. Scars are evident.
3. Cuts can happen in the beginning of the day, when stressed and at the end of the day as fatigue sets in.

Risks

1. Is usually more of a nuisance value. Affects client relationships. Short hairs could enter the cut.

Interventions

1. Cover cuts immediately.
2. Start working at a moderate pace and work up to top speed.
3. Take steps to remedy the onset of fatigue as the shift proceeds.
4. Use a technique to minimise the risk of cutting the hand. Use the crossed finger grip already described to hold the section.

Musculoskeletal Disorders

This section summarises the symptoms and some of the contributing factors identified in the preceding sections on technique.

The symptoms are discomfort and pain involving muscles, tendons and joints which, if not treated promptly, can result in injury.

Includes sore feet and legs.

The causes are cumulative in that they can come from a range of tasks performed at work and away from work.

The symptoms can take a period of time to appear.

They can include soft tissue injuries.

There are distinct limitations in the ability of the human body to carry out repetitive manual tasks, especially involving skilled movements. Muscles, tendons and joints are not designed for repetitive work, especially for those tasks that require fast repetitive movements for many hours in a day.

Holding an arm in a static position for a time can contribute to MSD.

Observations

1. Most observations are listed in the preceding sections on technique.
2. One hairdressing task may not be the sole cause of discomfort and pain. It is more often the collective and cumulative workload that causes discomfort and pain.
3. Working outside the mid-range of movement of a joint causes an unequal load on the joint and the muscles that flex it. This is particularly relevant in hairdressing for the shoulders, elbows, wrists and fingers.
4. Adopting postures with the back bent and twisted.
5. Bending the neck.
6. Lack of recovery breaks during a task – a few seconds every few minutes.
7. Holding static muscle positions especially with the elbow near or above the shoulder.
8. Lack of recovery time during the day - a few minutes every 30 minutes - especially when the day is very busy and late nights are being worked.
9. The onset of fatigue as a busy day progresses.
10. Rapid repetitive movements. Do they need to be so rapid?
11. A question of adequate quality sleep time.
12. Wearing high heeled shoes.
13. Not exercising the calf muscles to help move the blood up the legs as the hairdresser moves around the chair.

Interventions

1. Develop Industry 'good practice' work techniques.
2. See the sections on Eyesight and Tilting the Head.
3. Improve understanding and knowledge of the healthy functioning of the musculoskeletal system including:
 - a. the delivery of blood to, in and from the muscles
 - b. the movement of fluids in the muscle tissues
 - c. how tendons and joints are lubricated
 - d. the recovery of muscles, tendons and joints.That is, the basic factors related to the onset of discomfort and pain.
4. Without understanding and knowledge, better work techniques are less likely to be adopted. Only enough knowledge is necessary to understand the processes and be motivated to adopt good practice.
5. The adoption of micro pauses, stretching and exercise during the work period.
6. Taking breaks as stated in the section, Hours of Work and breaks to reduce fatigue and thus reduce the risk of MSD.

7. Exercising the calf muscles by lifting the heels off the ground when moving around the chair from the beginning of every day.
8. Wear low heeled shoes from the beginning of every day.

If discomfort occurs take action immediately to ensure pain does not develop.

It is important to take steps to minimise the likelihood of discomfort progressing to more significant and regular pain. Early signs of discomfort in muscles, tendons and joints should be taken seriously.

- Check and correct work techniques and allowing for muscle recovery time with micro pauses and breaks.
- Talk with a hairdresser who trains apprentices in 'good practice' technique or consult a safety professional who is knowledgeable in hairdressing techniques.
- Check if personal stress levels have increased recently. These can trigger or increase discomfort and pain.

If the discomfort continues consult your GP who will advise on the best course of action. This may include review by another health professional for example a physiotherapist or an Occupational Medicine Physician.

Once pain sets in, it will take longer to cure. The sooner a pain disorder is identified, the better the outcome.

If you have had significant pain for a number of years and may be considering leaving the Industry:

- Try changing your work techniques and practices, and improving your fitness and general health.
- If this does not control the pain, have an assessment by someone like an Occupational Medicine Physician skilled in pain treatment. It may be possible to reduce your pain and increase your ability to work.

All salons should have a procedure for the treatment of discomfort and the *early* treatment of pain.

Hairdresser Work Management Practices

Alternating the hands

Observation

Most hairdressers use the same hand to operate a particular tool.

Risk

Using the same muscles, tendons and joints to do a task can increase the risk of discomfort and pain.

Interventions

1. Hairdressers exhibit a high level of dexterity, accuracy and skill in the use of both hands and in their co-ordination.

2. As discussed in the previous section on recovery breaks, the spelling of muscles and allowing recovery time can take place while still working, by alternating the hands carrying out a task.
3. Alternating the hands when cutting may only be possible for a few.
4. Alternating the hands while blow waving, using tongs, and applying colour etc should be possible for most hairdressers.
5. Include alternating the use of the hands into the development of 'good practice' techniques.

Hairdressers' Self management.

Management of the work practices starts at the beginning of each shift.

Hairdressers can:

- self-manage micro pauses and short breaks
- can self-manage the techniques they use
- decide to change their work practices and techniques
- ensure they take tea, lunch and dinner breaks.

This self-management should be planned and start at the *beginning* of each day. The goal is to prevent any discomfort and pain - rather than stop an activity when it starts.

How to Change Your Technique and Equipment

Changing your working technique is not easy. This is because it takes time to develop a skill. If a task is being performed inappropriately, it will take time to reverse the learning that led to the skill.

But there is a way to make it much easier.

Take it slowly and spread the change over several weeks.

Visualise the preferred practice in you mind.

You can practice different ways of holding the comb and operating the scissors without a client or mannequin.

Use a mannequin to practice the technique.

Develop the new techniques for short periods of time when you are not too busy and are feeling fresh - early in the shift and after you have had a break.

Let speed of work increase at its own rate. Trying to hurry will slow down the learning process.

Even when you are coming up to speed, if you become at all bothered with the new way, use the old way and try again later.

Even a change in how you use the dryer can take time, as you have to bring the muscles up to working fitness with the different way of holding the dryer.

It is really worthwhile learning a new technique or how to use new equipment if you want to avoid discomfort and pain or have it now.
Only take on one change at a time.

Keeping Healthy and Fit

Being healthy is important in a career where caring for clients is important.
Caring for yourself is equally important.

A good level of fitness is necessary to be competent in your job and have good relationships with the clients for the whole day.

The work is physically demanding and dealing with clients can be stressful.

A healthy diet contributes to looking good and feeling good.

Being fit enables the hairdresser to ward off the effects of fatigue as the day progresses.

Being fit and healthy can make people more resistant to harm.

Observations

1. Hairdressers who have had serious MSD have a common factor of keeping really fit. Some have a regular programme of gym work and one was a triathlon competitor.
2. "In our salon with 10 staff, we have a gym fitness programme. No RSI".
3. Of the hairdressers interviewed with pain, few undertook exercise and none had a regular exercise programme.
4. The salons that claimed no MSD for more than 5 years stated they worked in a happy supportive environment.

Risks

1. Lack of fitness and good health can increase the risk of developing MSD.

Interventions

2. Have a fitness programme that can be a simple walking programme several times a week. Walk at a pace that will raise the breathing and heart rates.
3. The Industry should develop an exercise programme aimed at muscle conditioning and strengthening, and at cardiovascular condition.
4. This programme should be part of the trainees induction programme.
5. See the Appendix about breaks and exercises.

HEALTH AND SAFETY ISSUES FROM CHEMICAL USE

Dermatitis

Hairdressing products contain chemicals that can cause skin diseases – for both hairdressers and clients.

The skin is the main point of entry into the body, given the way chemicals are used in hairdressing. The product companies state they are committed to using chemicals with the least possible toxicity - that will achieve the desired hair enhancement effects.

There are two types of occupational skin disease.

Irritant contact dermatitis

Irritant contact dermatitis caused by water, shampoos and conditioners, cleaning agents and other strong chemicals. Continual wetting and drying of the skin, as well as contact with these substances will de-fat the skin and cause it to dry out, flake, split and crack. This will occur more rapidly with sensitive skin, especially in people with a history of asthma, eczema or hay fever.

Irritant dermatitis often occurs gradually.

It can affect apprentices, juniors and casuals who do a lot of work at the basin.

Taking good care of your hands and protecting them from the very beginning of your career will prevent this condition.

This condition can be treated and cured but will occur again unless the proper protective actions are taken.

Allergic contact dermatitis

Allergic contact dermatitis is caused by chemicals in dyes and tints, perm solutions and bleach. You can become allergic to the chemicals, causing the skin to itch, flake, split, crack, and blister.

The skin will flare up in a few hours after the particular chemical has been in contact with it.

It may take days or weeks to settle.

Allergic dermatitis can occur at any time in a hairdresser's career and often happens in combination with irritant dermatitis. It is diagnosed by patch testing in a specialized clinic.

Once this condition has developed – there is no cure. Prevention is the key.

There is a noticeable difference in the incidence and history of irritant dermatitis between salons. This suggests there could be value in a study of the factors affecting the incidence of dermatitis.

No data on the incidence of allergic dermatitis in New Zealand has been found. Anecdotal information from within the Industry and from dermatologists suggests that the incidence is less than for irritant dermatitis but the effects are more severe, likely to be longer lasting and more difficult to treat. There is no cure.

The Cosmetic, Toiletry and Fragrance Association of New Zealand

The Association has supplied the following information.

The products that require glove protection and eye protection are:

1. Peroxide solutions 3 to 6%
2. Peroxide solutions 7 to 12%
3. Bleach Powders
4. Acid Perms including ether free
5. Alkaline perms and relaxers
6. Hair Colour Flammable
7. Hair Colour - Permanent/Semipermanent whether cream or liquid
8. Hair Colour - Aerosol

Shampoos and Conditioners have the words "gloves recommended" on all Safety Data Sheets.

The instructions on the products say to wear gloves and eye protection when handling colours, bleaches etc. and to wear gloves when washing hair.

Frequent or continuous wearing of gloves may cause sweating in the gloves and this could contribute to the development of irritant dermatitis.

Some people are allergic to fragrances.

Working with chemicals

Observations and comments

1. In practice in salons and also in some of the training schools, gloves are only worn when applying full colour and doing roots.
2. For foils, few hairdressers use gloves as they consider the gloves make it difficult to handle the foil and only if they are careless will colour get onto the skin.
3. Some wear gloves when mixing.
4. Quote "I wear gloves to keep the colour off my skin".
5. When interviewing a 'once was a hairdresser' she said " I was a hairdresser and am still allergic to chemicals 12 years later".
6. No eye protection was observed.
7. Users said that the gloves drag on washed hair and clients complain.
8. Can't test the temperature of the water with gloves on.

9. Latex gloves. Very few hairdressers are aware that latex gloves are a poor chemical barrier and can cause dermatitis. If a person develops irritant dermatitis and decides to wear gloves, latex gloves could also aggravate the dermatitis.
10. Allergy tests are not used regularly for staff with a new product, or with clients. Clients don't want to come back in 24 hours.
11. "Can't feel the temperature of the water".

Risk

1. Irritant Dermatitis
 - a. There are short term and long term effects of dermatitis. Developing skin rashes, itching, broken skin and pain. Longer term continuing skin reactions and continuing severe allergic reactions that can continue forever.

Interventions

1. One large salon and its training school working in the high end of the market requires gloves to be worn for *all* chemical work and applying shampoo.
2. Carry out pre-employment checks for the presence of or a history of eczema, rashes, asthma or hay fever. Advise of the risks and the constant requirement to protect the hands from chemicals and wet work.
3. Develop Industry procedures for the protection of the skin from chemicals and wet work that can lead to dermatitis.
4. Follow the recommendations for protection of the hands and the eyes during mixing, application and washing out.
5. If you are using re-usable gloves take particular note of the procedures for washing them and, one pair for one person.
6. Develop and display at the mixing table, an information sheet on action to follow in case of a spill onto the skin or elsewhere and include the protective equipment to be worn. This information is contained in the Material Safety Data Sheets.
7. There needs to be improved understanding and knowledge of the structure and function of the hand skin, the effects of shampoos, conditioners and colour chemicals and how to protect the skin. Understanding helps lead to change to better protective measures.
8. The Hairdressing Forum, which operates under the Institute of Technology and Polytechnics, is conducting research into allergic reactions and patch testing.
9. Allergy testing should be carried out on new entrant staff and on all staff when a new product is first used in a salon.
10. The product manufacturers safety instructions should be followed.

Gloves.

Select your gloves on the basis of the type of material used to make the glove rather than the brand name.

Do not use latex disposable gloves with or without powder. They have a low resistance to chemicals and can themselves cause dermatitis.

Use nitrile, vinyl or polyethylene based gloves as disposable gloves.

Some re-usable gloves made for the hairdressing Industry come up over the wrist and have a low co-efficient of friction and thus less drag on the hair. They are made from low protein latex and are safer than ordinary latex disposable gloves.

If you use re-usable gloves take particular note of the procedures for washing them and, one pair for one person.

Wet Work that can cause irritant dermatitis

Includes shampooing and washing out colours etc.

Avoiding doing wet work for all or most of the day.

Remove rings when doing wet work. They can lead to nickel allergy.

Dry the hands thoroughly after each wash.

Moisturise your skin. Use barrier and emollient creams frequently at the beginning of each days work, during the day, at the end of the working day and when going to bed.

Use a rich sorbolene cream, not a runny cream, with 10% glycerin which contains no perfumes.

Rub well into the fingers, the web spaces between the fingers and the wrists.

Use nitrile, vinyl or polyethylene based gloves to protect the hands when exposed to wetness. Nitrile based gloves have less drag on the hair.

Find other ways of determining the temperature of the water. Use a thermometer and also check with the client as they have different heat tolerances.

Chemicals contained in Colours and similar products

Wear disposable gloves at all times when working with chemicals.

Wear eye protection for colours, bleaches etc when mixing.

Constantly look for products that contain safer chemicals.

Research is needed to compare the risk of chemical allergies from organic and standard products.

Follow the product safety instructions.

SALON MANAGEMENT

Hours of Work and Recovery Breaks

Hairdressing includes tasks with repetitive movements. The movements are not forceful but the rate of movement can be very rapid and may exceed a hundred a minute.

The body - particularly the muscles, tendons and joints - requires time to recover from rapid movement. Scientific investigations have resulted in the general idea that different sorts of breaks are required to allow this recovery:

- Micropauses – a few seconds every few minutes. This allows blood flow to be restored in the smaller muscles involved in the repetitive activity and that have either been held tight or have been contracting rhythmically.
Exercises
- Two minutes every twenty – to allow the larger postural muscles to get relief from holding the body in the same position all the time
- 10 – 20 minutes every hour or 2 hours – to allow.
- The effectiveness of these breaks can be increased by doing the exercises listed – and as explained in Appendix C.

Fatigue will occur as the shift proceeds. Fatigue can affect responding to clients' needs and interests, accuracy of tool use, and work pace.

Taking breaks before fatigue sets in, that is from the beginning of the day, reduces the likelihood of the onset of fatigue. This is greatly preferred to waiting until fatigue occurs before taking a break.

Hairdressers need to recognise the need to manage their rate of work and to take micro pauses and breaks.

At the end of the day, a good night's sleep is essential for muscle, tendon and joint recovery.

A hairdresser has some control during the shift over the workload and recovery time for the muscles and tendons of their body.

When pain occurs the hairdresser is the person that feels the pain.

Regular intakes of liquid and food are needed to allow the body to function effectively and to ward off fatigue.

Observations

1. Hairdressers work up to 12 hours a day on Thursdays and Fridays.
2. Salons are open on Saturday. Most close on Sunday. Many close on Monday.
3. The pace of work is intense when the salon is busy.
4. 'No appointment' salons have higher peaks and lows.

5. Breaks: A common practice is for a ten minute break every 3 hours and a half hour lunch break up to 6 hours into the shift. Frequently, no time for a dinner break or other food intake is allowed for on late nights.
6. More frequent breaks are taken when the salon is not busy.
7. Once discomfort or pain occurs then this is most likely to continue for the rest of the day.

Risks

1. The risks of discomfort, pain and injury are increased with longer hours and inadequate breaks.

Interventions

1. Limit staff to an 8 hour day whenever possible.
2. Management largely determines the hours of work and tea and lunch breaks.
3. The present practice is likely to increase the risk of MSD and fatigue.
4. See the Appendix on breaks and exercises.
5. The practice of 2 hours work followed by a 15 minute or 30 minute break should be followed – (as opposed to a 3 hour stretch).
6. Hairdressers should be asked about when they need to take additional breaks. Individual needs vary.
7. There are salons where hairdressers work a maximum of 8 hours a day.
8. There are salons where some hairdressers work only on Thursday and Friday evenings and Saturdays. This practice fits in with caring for children and is a win-win arrangement. It also allows other staff to work an 8 hour day.
9. Self employed hairdressers should start later in the morning on late night days.
10. Develop a Code of Practice for staff working conditions including hours of work and breaks. This should be included in the employment agreement.

Work Management Practices

Pre-employment Practices

The Right to Know

Every entrant to the Industry has the right to know and the employer and Training Provider has the duty to be pro-active in informing entrants of the risks of harm they will be exposed to. Apprentices and others who enter the Industry through a salon should be told about the prevalence of and the risks of developing dermatitis and MSD. See the Health and Safety in Employment Act, Section 12.

Dermatitis

Few employers have a pre-employment practice of discussing with the applicant whether they have now or they have a history of dermatitis, eczema, rashes, asthma or hay fever. The applicant has the right to know the risks of developing dermatitis and the possible consequences.

Risk

Does having a prior history of eczema, rashes, hay fever or asthma increase the risk of developing dermatitis? The research evidence indicates a similar chance of developing either irritant or allergic dermatitis as people without this prior history. However, when dermatitis does occur it is more difficult to remedy and may have lifelong effects including having to leave the Industry².

Interventions

Discuss the risks of developing dermatitis with all applicants and the consequences for a person who has a history of dermatitis and similar complaints.

Further interventions are included in the section on Dermatitis. There is a need to practice from the day a person enters the Industry, consistent and thorough working methods that avoid contact with products that can cause dermatitis.

Initial training in techniques and safe working practices.

The initial techniques taught to trainees are likely to affect their risk of developing MSD and dermatitis and thus putting at risk achieving their wish to be a hairdresser as their chosen career.

Techniques are difficult to change and need to be 'good practice' techniques from day one of their training.

Work Experience

There are new entrants to the Industry who do not come into the Industry through the training process. These include work experience and secondary school pupils who work after school and on Saturdays. These young persons require the same training in the risk of harm and safe procedures as those in the formal training system.

Keeping Records of Accidents and Leaving the Industry

Employers are required to keep records of accidents and harm (S25, HSE Act). This should include records of dermatitis and MSD. Memory is not a reliable source of information on the incidence of discomfort, pain and injury, or dermatitis in a salon. Accurate information is important in deciding on any action needed to prevent the harm occurring again and for making a claim for compensation.

A hairdresser leaving the Industry because of dermatitis or MSD is likely to meet the criteria of serious harm and this must be reported to the Department of Labour.

Develop accident register forms for the hairdressing Industry that include discomfort and pain as well as injuries and harm.

² This conclusion was reached after extensive discussion with a number of Senior Medical Specialists.

EQUIPMENT, FURNITURE AND SALON DESIGN

Equipment

Combs

Combs are designed for specific purposes.

1. To comb the hair.
2. To select a section for cutting or the fingers to hold.
3. To select a fine section for the foil or tongs.
4. For barbering.

The comb is the essential tool as it is used to present a section of hair. How the comb is held and rotated in the hand determines the range of movements that can be carried out and the angles of the wrist and arm.

The comb can be held with a table knife type grip or like holding a spoon – See Figures 8 and 9 - K Janes.

The spoon grip enables the elbow to be kept closer to the side of the body.

It presents the section to the cutting tool or to the other hand in a position that allows the other arm to be closer to the body and at a reduced wrist angle.

Observations

1. Different sizes (length and width) of combs are used to suit the size of the hand and task.
2. The barber combs have a handle end with a more comfortable grip as the comb fingers are covered. This should make the rotation of the comb in the hand easier.
3. Different grips change the method of presentation of a section and allow for better presentation to the scissors.
4. Hairdressers with significant pain and on the point of leaving the Industry have included into their technique the 'spoon' comb hold and found this helped to reduce or eliminate the pain.

Risks

1. Can contribute to MSD.

Interventions

1. There should be a strong link between Unit Standards 20929, Demonstrate safe and professional practice in the salon environment, and Unit Standard 2867, Select and maintain hairdressing tools and equipment.
2. A study on the design and suitability of combs for hairdressing should be made.
3. The development of a 'good practice' technique would include the use of the combs.
4. Hairdressers should select combs that suit their hand size.

Scissors

Scissors are an essential tool. They require repetitive movement. Chipping has increased the rate of movement by up to five fold. Scissors are used to cut and to slice the hair.

The presentation of the section determines the angle of cut and presents a challenge to the hairdresser in achieving desirable positions of the wrist, arm and shoulder.

There are two basic designs of scissors. 'A' frames and 'offset'.

"A' frame scissors have the 4th finger and thumb holes equal distance from the centre screw.



'Offset' scissors have the thumb hold closer to the centre screw.



Some offset scissors have an adjustable shank for the thumb.

Some offset scissors have a selection of size inserts for the finger and thumb holds. Some scissors have adjustable holds.

With both types the fourth finger is placed in the finger hold.

With craned scissors (K Janes), the blade points down from the level of the shank to improve the angle of cut in relation to the position of the wrist.

Most hairdressers keep the fingers still and move the thumb to cut.

Right handed and left handed scissors are available.

The length of scissors ranges from 4.5 to 6 inches. Length should be determined largely by the size and strength of the hand. Barbers seem to use the longer scissors.

Scissors have a feel of balance and comfort.

Some say there is a relationship between blade length and cutting the skin between the fingers.

Sharpening intervals vary from 3 months to 2 years and appears to be related to blade material and cost.

The price of scissors varies from \$50 to \$1000 with some imported scissors priced up to \$3000.

Scissors are a significant cost for the trainee.

Changing the type of scissors can require a period of adjustment.

Alternative designs of scissors. Boyles et al (2003). In order to alleviate pain and discomfort associated with scissor use, a new hairdressing scissor was designed with a 90-degree bend in the handles to keep the hand in a neutral position while cutting hair from any angle.

Observations

1. Applying pressure between the thumb and fingers to operate the scissors. The strongest movement of the thumb is towards the first finger ('offset' scissors). The movement towards the fourth finger is weaker ('A' frame) and outside the desired range of movement of the thumb.
2. Repetitive movement outside the desired range of movements of the thumb should be avoided. For this reason 'off set' scissors are ergonomically a better tool.
3. The over the top cutting technique results in elbows above the shoulder, backs bent and twisted and wrists at the extreme range of movement.
4. Hairdressers on the point of leaving the Industry changing to 'offset' scissors and a change in technique are still working in the Industry.
5. Some hairdressers with significant pain have achieved immediate reduction in pain with changing to 'off set' scissors.

Risk

1. The scissors are a significant factor in the development discomfort, pain and MSD.

Interventions

1. A trainee should only buy or be supplied with 'offset' scissors.
2. Trainees and hairdressers should have available and be taught the factors to be considered when purchasing a pair of scissors.
3. The teaching of Unit Standard 2867 should include information on some elements of ergonomics relevant to the selection of scissors.

4. A study should be made into the design and suitability of scissors for hairdressing.
5. Selection factors for use when buying scissors should be developed, particularly to assist new entrants when buying their first scissors and for those suffering pain and injury and considering a change in the type of scissor.

Dryers

Hand held dryers are used to dry, tease-up and blow wave hair.

Observations

1. Holding the dryer by the pistol grip limits the safe operation of the dryer.
2. Some hairdressers hold the barrel of the dryer to improve the wrist and arm positions, and posture.
3. The barrel is not designed as a hand hold and is too large for smaller hands.
4. Operators complain of the weight of the dryer.
5. There are AC and DC dryers. The DC dryers are lighter and cheaper but may not last as long.

Risk

The use of dryers contributes to MSD. The present dryers are not designed to reduce the risk of MSD.

Interventions

1. There is a dryer on the market that allows a different grip and the temperature of the barrel allows it to be gripped.
2. Designing a dryer with barrel and pistol grips to provide a variety of ways to hold the dryer to blow air onto all heights of the head.
3. This design should be carried out in conjunction with the development of a 'good practice' technique.
4. The design should provide for a range of hand sizes on all grips.
5. Select a dryer with a low noise level.
6. Criteria should be developed for the assessment and purchase of dryers.

Client Chairs

Observations

1. Chairs with no height adjustment.
2. Gas cylinder operated chairs. Cannot be raised when the client is in the chair. The hairdresser has to ask the client to stand while the chair height is raised. Not many hairdressers are prepared to do this.
3. Chairs with hydraulic cylinders can be raised and lowered without disturbing the client.
4. Chairs with footrests attached. These appear to be at a set height. Some have a single bar and others have a range of foot positions to cater for clients with different leg lengths.
5. Chairs with no footrest attached.

6. Chairs with the footrest removed as a client has fallen over the footrest.
7. Single height footrests that are part of the wall under the bench.
8. Moveable footrests.
9. A short elderly lady who wanted her feet on the ground as there was no footrest. The hairdresser had to accommodate to a head height well below a desired working height.
10. "Can't get the chair and client high enough". A tall hairdresser.

Risks

1. Chairs that hinder or don't allow for height adjustment contribute significantly to the risk of MSD, as the hairdresser has to accommodate by adopting undesired postures.

Interventions

1. Use hydraulic adjustable chairs with footrests attached or without if portable footrests are used. These chairs can be raised or lowered with the client in the chair.
2. The design of the chairs and, in particular the range of heights, should be reviewed with the development of the techniques for cutting, blow waving and applying colours etc.
3. A chair with a foldaway footrest should be considered in the design review.
4. Criteria should be developed for the assessment and purchase of chairs.
5. Using a brightly coloured bar stool with a surrounding back for cutting a child's hair. The chair was also used for a child to sit beside their mother or carer.

Cutting Stools

Observations and Comments

1. "When I get a sore back I use a cutting stool".
2. These portable stools are a necessary part of the salon equipment and should be used from the beginning of the shift.
3. A hairdresser should always have one available to them and should be used for all client related tasks in the salon.
4. They can have a well padded flat top or can be a saddle seat. A curved edge is preferable.
5. Stools are available with backs, but the practical use of a back needs to be studied.
6. Cutting stools allow a hairdresser to work on the lower half of the client's head with a neutral back.
7. The use of stools allows the legs some recovery time by reducing standing time by about 25%.
8. The feet can be out in front or tucked underneath.
9. For most hairdressers the position of the feet will determine their back posture. If the angle of the legs to the back is 90 degrees most hairdressers will have difficulty in maintaining this position with the back in a neutral position.

10. An angle of 100 degrees or greater between the thighs and the back will allow the holding of a neutral back posture. This can be achieved by sitting on the front edge of the stool or by putting the legs under the stool.
11. The range of heights of the gas cylinder should be reviewed and the best range determined by comparison with the anthropometric data.
12. A 'good practice' technique for the use of stools should be developed.
13. Criteria should be developed for the assessment and purchase of stools.

Basins

Basins with a chair for the client are used to shampoo hair and to wash out colours and perms.

Observations

1. Basins attached to the wall and some with a bench on either side restricting the space available for the hairdresser.
2. The basins are a fixed height for all.
3. No footstool or moveable platform was observed for shorter hairdressers.
4. The tap and hose are in the way of the hairdresser reaching over and into the basin.
5. The depth of the basins varied and deep basins involved more reaching.
6. Most of the client chairs at the basin were unadjustable and not comfortable for the client. One tall client had to slide down the seat of the chair to fit his neck onto the edge of the basin. With the basin fully raised the edge of the basin was very uncomfortable on his neck.
7. Some basins had a rubber sleeve on the edge of the basin for the client's comfort.

Risks

1. The fixed height, placement and design of the basin can contribute to discomfort, pain and MSD.

Interventions

1. The design and use of basins should be reviewed. Anthropometric data (size and shape) of the New Zealand hairdresser population should be used.
2. The basin should be free standing from the wall.
3. The taps and hose should be mounted to allow free access to the basin for the hairdresser.
4. Develop a basin with adjustable height for the hairdresser.
5. Consider designing the edges of the basin to provide a place for the hairdresser to rest their forearms and take some weight off their backs when leaning forward.
6. The depth of the basin should be no more than is needed to contain water during the washing and rinsing processes.
7. Most of the client chairs at the basin were unadjustable and not comfortable for the client.

Salon Design

Salons have a wide range of floor designs, as they are located in a variety of spaces usually in existing buildings.

Observations

1. Basins against the wall.
2. Hard floor surfaces.
3. Fixed height chairs.
4. Chemical storage and mixing in staff and eating areas.
5. Lack of clear access spaces around the salon for client and staff movements.
6. Ventilation that depends on having a window open which is kept closed when the temperature is below a comfortable level.
7. Power cords stretching across the hairdressers operating area.
8. Salons can be noisy partly with piped music.
9. Low lighting levels.

Risks

1. Poor design increases the risk of MSD, exposure to chemicals and fumes, and trips and falls.

Interventions

1. Some factors to be included in a design brief.
 - a. Space for the hairdresser to move around their chair.
 - b. Space for the storage of the cutting stools close beside the chair.
 - c. The basins to be free standing.
 - d. Ventilation to remove the fumes from the products. Particularly in the area where the chemicals are mixed.
 - e. Location of power outlets to minimise cords in the working area around a chair.
 - f. A floor surface designed for salons with an easy clean surface and some give in the surface for foot and leg comfort.
 - g. The mixing area away from the staff and food area. It can be in the main salon area.
 - h. Consider noise abatement in the salon.
 - i. Lighting that allows colours to be true to daylight colour and provides a level of lighting suitable for fine work.

A model design brief should be developed and included in the Association's Industry Guide.

Anthropometric Data

The design of client chairs, basins and cutting stools needs information on the body dimensions of hairdressers. Information is needed on stature, shoulder and elbow heights, the same for seated heights that are specific to the New Zealand hairdresser population. This anthropometric information would assist in assessing the suitability of presently available equipment and in the design of more suitable equipment.

Anecdotal comment is that the clients and the hairdressers are getting taller and wider. Furniture may not be following this trend.

"Can't get the chair and client high enough". A tall hairdresser.

An anthropometric database of essential measurements of Hairdressers should be developed. See the Appendix for suggestions on what is required.

TRAINING

The purpose of the safety and health learning process is to enable the hairdresser to self manage the risks of harm to themselves that they have control over, in this their chosen career.

To achieve this, they require an understanding and knowledge of the causes of harm and most importantly factors about the limitations of the human body in carrying out the tasks involved in hairdressing and barbering.

Trainees and hairdressers can then be motivated to learn and adopt safe work techniques and practices.

Initial Training

The initial training of new entrants is the essential base for safety and health in the Industry. There are two avenues to becoming a qualified hairdresser or barber.

Starting as a full time student in a course provided by an approved Training Provider, finding a position in a salon and then taking up an apprenticeship at year two.

Taking up an apprenticeship with a salon.

Students taking a full time course receive their initial training from the Training School.

Apprentices receive 3 year training initially from their employing salon and its qualified trainer and also from a Training Provider during the annual 19, 19 and 10 day off-site apprentice training programme. A third of this time is used to undertake assessments of competence and knowledge to achieve the Unit Standards.

NZQA.

The New Zealand Qualifications Authority's primary function is to coordinate the administration and quality assurance of national qualifications in New Zealand.

The NZ Hairdressing Industry Training Organisation Inc (HITO)

HITO develops and reviews the unit standards and qualifications, which are registered with the NZQA. HITO administers the apprentice scheme.

HITO's Mission Statement. "To establish and maintain the achievement of high quality, relevant hairdressing qualifications as an essential investment for the industry and its clients" Its Purpose Statement includes "...so that trainees and employers experience the benefits of a professional standard of hairdressing and barbering qualifications..." and "....provides leadership in education and training, develops national qualifications with industry, maintains national standards, co-ordinates training, records achievements and provides ongoing support for

trainees and employers. We also administer the apprenticeship programmes, including delivery of on and off job training”.

Health and Safety Objective

Out of the health and safety situation as given to and described in this evaluation, an additional purpose should be added to HITO’s Objectives.

“The purpose for undertaking training is to enable trainees to achieve their ambition of a successful career in hairdressing and be able to work in this career for as long as they wish without injury or harm to their health.”

This is the desired outcome from any training programme and system. The training providers have expressed this intent. It needs to be written as a measurable objective. HITO should influence the Industry to adopt this objective.

Training Issues

Training is provided by the training providers and training in salons. With training provided by two separate parts of the Industry, there are going to be problems with consistency and change.

Each training provider produces their own teaching material with an internal moderation system. There would be value in a system that provided an opportunity for synergistic development of consistent health and safety teaching materials throughout the training system.

The national moderation system is administered by HITO for assessment material.

Practical training

One on a national basis, no written or recorded task analysis or work techniques were found. Some written techniques are used from overseas sources. Consequently there is a significant difference in the techniques taught.

There are no criteria for the measurement of good practice and technique in the tasks involved in Hairdressing and Barbering.

Training Skills

This evaluation did not observe the skill level of those who train the apprentices in the salons. To train apprentices, the trainer must have a nationally recognised training qualification. HITO offers training in ‘Tutoring in Hairdressing’. This evaluation did not observe the skill level of those who train the apprentices in the salons.

Safety Management and National Certificate in Hairdressing Management

The HITO specialist strand of Salon Management covers advanced hairdressing and management skills –to effectively manage the operation of a small business in the hairdressing Industry. Effective management includes effective and

continuing use of the human resources available to the manager. Safety Management should be a subject in this specialist strand.

The Right to know

Every entrant to the Industry has the right to know the risks of harm they will be exposed to. Full time students who enter the Industry through a training provider should be told the prevalence of and the risks of developing dermatitis and MSD.

Training in Health and Safety

Observations

1. There is a lack of knowledge and understanding of the limitations of the human body to carry out repetitive movements and tasks.
2. A lack of knowledge of the structure and function of muscles, tendons and joints.
3. A lack of knowledge of the structure and function of the hand skin.
4. A lack of knowledge of the how muscles, tendons and joints function.
5. A lack of knowledge of the blood circulation system.
6. Very few hairdressers and trainees knowing that latex gloves can be a cause of irritant dermatitis.
7. "Pain is part of being a hairdresser".
8. Unit Standard 497, Protect Health and Safety in the Workplace is an all industry Standard and does not address the particular health and safety issues of the Hairdressing Industry. Tutors have included information specific to the hairdressing industry including MSD and chemicals
9. Mannequins used that are difficult to adjust and so the students adjust their body posture instead of adjusting the mannequins head height.
10. Undesired postures and work techniques shown by trainees.
11. Gloves not being worn when working with colours.

Risks

1. Developing and continuing discomfort and pain. Developing MSD.

Interventions

1. The development and training in the practical hairdressing techniques and skills that eliminate or minimise the development of MSD and the onset of dermatitis.
2. The use of video to show 'good practice' techniques and skills. Video played at slow speeds enables students to follow the finer details of techniques. Video can be used to show a student their technique, analyse it at slow speed and compare it with video of best practice techniques of another hairdresser. Understanding and change often comes from seeing rather than being told.
3. Showing how to use the comb and scissors correctly is more effective and helpful to the apprentice or student than saying "keep the elbows down".
4. The development of a consistent content in Health and Safety subjects. The introduction of Unit Standard 20929 is an opportunity to achieve a major change in what is taught to assist trainees and hairdressers to avoid MSD and dermatitis.

5. Providing continuing training and training materials for established hairdressers especially those with pain and those responsible for teaching trainees.
6. Increase the skill levels of those teaching and coaching trainees and hairdressers in the salons.
7. Training should include how to manage and achieve changing ones work techniques and practices.
8. Mannequins should be mounted on an easily adjustable device. Large camera tripod stands were observed in use for this purpose.
9. Career advisers in secondary schools should understand and include in their discussions the risks and preventive measures necessary for those with a history of rashes, eczema, asthma or hay fever.
10. Assessors and national moderation should assess the postures and work techniques of students.

PRODUCTS, PRODUCT SUPPLIERS AND THE COSMETICS, TOILETRY AND FRAGRANCE ASSOCIATION OF NEW ZEALAND (CTFA)

The products and product suppliers are an integral and important part of the Industry.

The possible harm from chemicals is generally recognised within the Industry but unfortunately there is a view that the "harm occurs to other people and not me".

The Cosmetic Group Standard is being developed by ERMA and will be released by 1 July 2006. This Standard controls the manufacture of cosmetics used in the Hairdressing Industry in New Zealand. The cosmetic group standard is based around the HSNO Act 1996 and incorporates many aspects of the EU Cosmetics Directive regarding restrictions on ingredients and labelling.

The collective body of cosmetic product suppliers is the Cosmetics, Toiletry and Fragrance Association of New Zealand (CTFA) and is part of the International CTFA. A sub-group of CTFA is the Salon Marketing Group, which is made up of the main trade name suppliers.

The members of this group visit most of the salons in New Zealand on a regular basis and provide on and off site training in the safe use of their products.

Cosmetic products are also supplied by distributors that supply a full range of goods that a salon could need. These suppliers visit a large number of their customers on a regular basis.

Hairdressers also purchase cosmetics supplies from chemists, supermarkets and the Warehouse.

Observations

1. All suppliers set out to meet the needs of their customers and do not have a safety supervisor role.
2. Cosmetics supplies purchased by hairdressers from chemists, supermarkets and the Warehouse, are unlikely to have counter staff with safety technical knowledge of the products.
3. It appears that all suppliers are selling latex gloves to hairdressers that are a poor chemical barrier and can cause dermatitis.
4. There are products with low toxicity ingredients available on the market.
5. Safety material is printed on the products and packaging.
6. Material Safety Data Sheets (MSDS) for salon hair products were produced and distributed to the salons by the CTFA in July 2003. There is little knowledge of the guide out in the salons. A measure of the transfer of knowledge from the MSD sheets is the lack of knowledge that latex gloves are a poor chemical barrier. The Sheets state not to use latex gloves.

7. Little use is made of allergy testing which is strongly promoted by one of the product companies and is required to complete colouring related Unit Standards.

Risks

1. The product suppliers are not the hairdressers 'safety keepers'. Safety information is supplied on the product packaging. However most of the purchasers depend on the supplier advising on any likely harm coming from the product and also of the appropriate safety actions to take. Thus if this opportunity to communicate and instruct is not taken, then this can contribute to harm.

Interventions

1. Product suppliers could take a greater role in coaching and encouraging on a continuing basis, the safe use of products.
2. The product suppliers should withdraw the sale of latex disposable gloves to the hairdressers.
3. Latex gloves should be required to state clearly on the packets that latex gloves are a poor chemical barrier and may cause dermatitis.
4. Low toxicity products should be promoted as an alternative product to both hairdressers and clients.
5. More effective methods of conveying the information in the MSD sheets should be developed and used.
6. There is a new patch test for allergy testing that the clients can apply themselves before an appointment.
7. The value of allergy testing for hairdressers and clients should be studied and a programme to promote it should be implemented.
8. There is a list of research recommendation listed at the end of this report. The CTFA could help with some of these projects.

COMPETITIONS

The New Zealand Association of Registered Hairdressers organises a competition programme each year.

The competitions are judged on the finished style.

The recognition of 'good practice' technique should be included.

A STRATEGIC SAFETY PLAN FOR HEALTH AND SAFETY IN THE HAIRDRESSING INDUSTRY.

To improve the safety and health of the hairdressers and trainees in the Industry will require commitment and an Industry plan. Too many hairdressers are living with pain as a daily part of their lives as a hairdresser. Hairdressers are leaving the industry because of their health and having to find another way to earn a living. They are continuing to live with the effects of the harm they developed while working as hairdressers. There is a significant cost to the Industry in training replacement staff.

A “We Care” programme.

Talking to hairdressers and salon managers showed a high level of care for the client. This is not so apparent when talking about the prevention of pain and injury to the present workers or, when talking about members who have left the Industry because of health reasons. The Industry cares more for its clients than it does for the people working in the Industry.

It is recommended that the Hairdressing Industry develop a “We Care” Strategic Safety Plan for the next 5-10 years.

Research and development programmes

The recommendations include research and development studies in several areas of hairdressing. The Association could take a leading role in facilitating these projects.

One Beauty Care Industry

This evaluation and its parallel evaluation of the Nail Bar Industry has shown that the components of hairdressing, nail, manicure and pedicure and, the Beauty Therapy Industry are increasingly merging and there are combinations of services being provided in the one salon.

The Beauty Therapy and nail augmentation services do not have an Industry Training Organisation. The NZQA is asking the Beauty Therapy Industry to provide or find an ITO.

The industries should consider one Beauty Care Industry, as is the case in Australia. This would benefit the clients, the development of beauty care services and, hairdressers who wish to develop their skills across the sectors of the wider industry.

Registration of Hairdressing Salons and a Code of Practice

The registration of hairdressing salons under the Health Act is administered by Territorial Authorities (Councils). The purpose of the registration is that hygiene standards are complied with to protect the clients. Registration does not cover or imply the competency of the staff in providing hairdressing services.

Discussions with the Ministry of Health suggests that registration may be replaced with a Code of Practice. The Industry should develop a Code of Practice to prepare for the Ministry of Health's proposed future requirements. This could be in conjunction with a Code of Practice for the Beauty Therapy and Nail Industries or for the overall Beauty Care services industry.

CONCLUSIONS

1. Unnecessary pain and harm is occurring in the Hairdressing Industry.
2. The Industry is aware of the causes and of many of the interventions that would remove this pain and harm.
3. The Industry has the structure to implement a process to greatly improve the care of its members.
4. The Industry is making progress in improving the care of its members with the development and introduction of Unit Standard 20929 into the nationally recognised qualifications framework.
5. A co-ordinated effort will be needed to change the Industry ethos and the techniques and practices.
6. There is a willingness to improve health and safety. A willingness to show that "We Care".

RECOMMENDATIONS

This evaluation, coming from outside the Industry, identifies areas of concern. Responsibility for accepting and actioning the Recommendations should be taken and owned by the Industry.

The Department of Labour's role should be mainly that of a facilitator.

Equipment design and selection

Ban the use of disposable Latex gloves in the Hairdressing Industry and require labelling to include the safety and health risks.

Ensure that trainees only buy offset scissors at the beginning of their career.

The Industry should use hydraulic cylinder chairs that can be raised and lowered with the client in the chair.

Develop a dryer that allows the use of either hand in a variety of positions, has low weight and a low noise level.

Criteria and advice should be developed for the selection and purchase of all equipment including:

- Basins and associated plumbing
- Client chairs
- Hairdressers' stools
- Combs
- Scissors

Salon Design

Develop model designs brief for new salons and when renovating existing salons.

Technique

Develop and adopt a 'good practice' technique for:

- basin tasks
- blow waving
- colouring etc
- cutting
- perming
- the use of stools

Develop a fitness and exercise programme.

Work Organisation

Develop a Code of Practice for staff conditions including hours of work and breaks. The Code should be included in the employment agreement.

Training

Review the objectives of HITO.

Review the knowledge content of the safety and health training material with the introduction of Unit Standard 20929.

Develop a more effective way to communicate the essential information from MSD Sheets.

Review the gap between taught techniques and techniques in the salons.

This should include basic knowledge of human anatomy and motor control in relation to MSD in the hairdressing industry

The Big Picture

Develop a Strategic Safety Plan for the Industry including the ethos and concept of "We Care"

Work towards a single Beauty Care Industry.

Encourage Product suppliers to take a more active role in coaching clients in the safe use of products.

Provide Career advisers with safety and health information particularly regarding dermatitis.

Develop the teaching skills of those who provide training in the salons.

Undertake a continuing training programme for qualified hairdressers particularly in 'good practice' techniques.

To include recognition of 'good practice' techniques in the Competition programme.

Revise the Guide to Occupational Safety and Health for the Hairdressing Industry.

Develop a Code of Practice to meet at least the Ministry of Health's future requirements for Nail Bar services. This could be in conjunction with a Code of Practice for the Nail and Beauty Therapy Industries or for the overall Beauty Care services industry.

Further study

Conduct research to compare the risk of chemical allergies from organic and standard products.

Undertake a study of the factors affecting the incidence of dermatitis in salons.

Undertake a study on the selection and availability in New Zealand of gloves for hairdressers.

Develop an anthropometric database for the Industry.

Review the gap between taught techniques and techniques in the salons.
Conduct research to compare the risk of chemical allergies from organic and standard products.

Other

Develop a saloon procedure for the treatment of discomfort and the *early* treatment of pain.

Develop a procedure for the treatment of chronic pain. For those who have had pain for years.

Develop an accident register form for the hairdressing Industry that includes discomfort and pain as well as injuries and harm.

REFERENCES

Appendix D lists the organisations and persons consulted for the evaluation.

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APPENDIX A: PREVIOUS STUDIES AND INJURY DATA

There have been three recent New Zealand studies and surveys.

Hairdresser Industry Health and Safety Survey

In 2002-2003, Pamela Powers of the Department of Labour carried out a survey entitled 'Hairdresser Industry Health and Safety Survey'. Seventy hairdressing salons employing 270 hairdressers in the Nelson/Marlborough region were visited. In the visits a survey was completed, and literature and advice was given.

Health Issues

- Occupational overuse syndrome.
- 23 Hairdressers who have worked for 10-40 years have chronic symptoms or have suffered acutely in the past 5 years.
- 10 hairdressers who have worked 10 years or less have more recent symptoms in the last 12 months.
- 4 are currently receiving treatment for symptoms.
- 3 are away from work because of OOS.
- 3 have ceased employment (anecdotal).

Dermatitis

- There are four hairdressers who were known to have left the industry over the past five years because of severe dermatitis.
- 12 hairdresser are at present experiencing mild to moderate dermatitis on hands and fingers.

Louise Malcolm's Thesis, Musculoskeletal Disorders in New Zealand Hairdressers. (2005)

This thesis reports firstly on a questionnaire survey of 331 hairdressers, members of the New Zealand Association of Registered Hairdressers, to describe hairdressers work practices and related to upper extremity musculoskeletal disorders and, secondly to investigate a new pair of scissors and a new cutting technique designed to reduce the likelihood of musculoskeletal injuries. The scissors and cutting technique have been developed by Kieran Jane.

Further investigation is warranted to evaluate the objectives of this thesis with a larger population.

A HITO Survey

A recent HITO survey of apprentices who terminated their training in 2005 showed that 5.3% did so for medical related reasons.

ACC data

Data and information on claimants from the Hairdressing and Barbering Industry are included with those of Beauty Therapy, Nail Bars, Manicure and Pedicure

claimants. The following comments from the data apply to the combined industries.

Table 1: Trends and comments on the data for the three years 2002-03 to 2004-05

	2002-3	2003-4
Total Entitlement claims.	51	60
	\$42 694	\$3640058
Ongoing claims	31	39
	\$ 545 484	\$ 613 128
Total Medical Fees	329	312
	\$42 694	\$ 46 533
New Claims - Diagnosis of Gradual Process	61%	73%
Ongoing Claims - Diagnosis of Gradual Process	60%	66%

- New claims and medical fee claims for occupational disease and infections are 10 a year.
- Injury site: New entitlement claims for upper limbs and backs have increased by 42%.
- New medical fees: A 3.5% increase in numbers.
- New medical fees: Most frequent in this order: back/spine, finger/thumb, neck/back of head vertebrae, hand/wrist and shoulder.
- New medical fee costs have increased by 28%
- Age - New entitlement claims: There are approximately twice as many claims in the 20-24 age group as other groups.
- Age: Spread fairly evenly over the 15 to 59 age groups. The anecdotal information that many leave after 6-7 years means that the incidence of medical fee claims increases with age.
- Gender: 85% of entitlement claims are from females. 89% of new medical fee claims are female.
- One major product supplier (to 1/3 of Salons) received reports of 3 serious reaction cases in a year.

APPENDIX B: BREAKS AND EXERCISES

Hairdressers should consider making three types of break and four types of exercises part of their everyday work. The two interrelate in that breaks can be used to do exercises:

Table 2: Breaks

TYPE	What it involves	Why is it needed?	Disadvantages	Disguising the disadvantages	Exercises that should/could be done in this break (See next table)
Micropause	A few seconds relaxation every 3 minutes – to refresh the small (non-postural) muscles involved in rapid, repetitive movements of cutting and combing	To allow blood to flow in muscles that have been held tight – and thus refresh these muscles	It may be difficult to remember to do them	Supervision. Persistence.	2A, 2B, 3A
1 minute per 20	Stopping working for one minute every 20 minutes	To give large postural muscles a break. To stretch postural muscles that have been held on one position for a time.	Client does not like the interruption.	Pretend to be doing something else – like taking a drink from a drink bottle. Take the opportunities that are presented – a customer inquiry.	4A – 4C Walking across/ round the salon!
10 – 15 minutes every hour or two	Taking 10 – 15 minutes every two hours instead of every 3 hours.	Three hours is too long without a break. A fundamental human rhythm seems to be about 90 minutes.	Perceived loss in productivity. Clients held up.	Choose to believe that this will result in better work and better overall productivity.	Walking further – e.g. a planned walk around the block.

Table 3: Exercises

TYPE	Name	How do you do it?	How often?	How long for, or how many, repetitions?	Rationale
Warm up	Shoulder stretch	<p>Move your right arm as far back as it will go. Look to your left.</p> <p>Move your right arm across your body and point to the left.</p> <p>Move your left arm up and pull back to fully stretch your right shoulder.</p> <p>Hold for 5 seconds.</p> <p>Repeat to the other side.</p>	Before each work period	2 - 3	These prepare the body for action by signalling to the muscles involved that action is imminent and stretching tendons and ligaments.
	Shoulder shrug *	<p>Raise your shoulders as high as they will go.</p> <p>Hold for five seconds.</p> <p>Let your shoulders drop while standing as tall as you can.</p> <p>Hold for three seconds</p> <p>Then pull your shoulders down further for two seconds.</p>		2 – 3	
	Lateral neck flex	<p>Looking straight ahead, let your head tilt gently to the right. Do not force it!</p> <p>Gently raise and lower your left shoulder to loosen the neck muscles.</p> <p>Now push your left hand down, so that you feel a stretch on the left side of your neck.</p> <p>Hold for five seconds, then bring your head back to vertical and relax.</p> <p>Repeat the exercise to the other side.</p>		2 - 3	
To Promote Blood Flow	Shoulder rolls	<p>Move your shoulders in large, slow relaxed circles, forwards, up, back, down - both ways.</p> <p>Take 4 seconds over this.</p> <p>Stop, let your shoulders relax for a few seconds.</p> <p>Now rotate them the other way - back, up, forwards, down</p>	During a micro – pause	2 - 3	Muscles held tight for a time (usually the ones that support the part of the body doing the repetitive actions rather than the moving muscles themselves)

	Forearm flaps	With your hands loose at the side of your body, flap your hands in a gentle relaxed manner for 20 -30 seconds, with your wrists completely loose - to loosen your forearm and get the blood flowing. The movement comes from the UPPER arm, with the lower arm hanging loose.		5 – 10 seconds	need refreshment or acid wastes can build up. However, if the moving muscles have been contracting and relaxing in a rhythm that does not allow for adequate blood flow, they too will need opportunities for a break.
Stretches	Forearm turns	Hold your arms out at 45 degrees and rotate each wrist so the palms face out and up. Hold for two seconds. Relax and do the forearm flap exercise, then repeat, this time turning the palms down and back. Repeat 5 times. Don't push to the point of pain.	During a micro - pause	1 – 2	Muscles held tight for a time (usually the ones that support the part of the body doing the repetitive actions rather than the moving muscles themselves) need refreshment or acid wastes can build up.
	Head turns	Stand tall, look straight ahead. Now slowly move your gaze around the room, until you are looking over your left shoulder. Your head will follow naturally. Pause for five seconds, then slowly move your gaze back to the starting position. Drop your shoulders and relax. Then do it to the right.		1 – 2	
'Contra' Exercises	Chin tuck*	Look down and pull your chin in towards your throat. Hold for 5 seconds and return to normal.		1 – 2	Large postural muscles that maintain the body in a fixed position can get 'set' in that position. Even a few (2 or 3) repetitions can make a large difference.
	Elbow lift	While standing, hold each elbow with the hand of the opposite arm. Now raise your elbows up above the front of your head and press them towards the ceiling. Do not bend your spine during this exercise.	Every 20 minutes	2	
	Elbow stretch	With your neck straight, clasp your hands behind your head and gently stretch your elbows back until your shoulder blades feel close. Now stretch each elbow out sideways and hold for 5 seconds. Move your elbows forward and close together. Hold for 5 seconds and relax		2	
	Back bend	Hands on tops of buttocks – arc back gently backwards.		2	

The point is not to make an ostentatious display of the exercise but to make use of legitimate opportunities that occur naturally in work for a worthwhile purpose.

Other exercises may work for you.

If you don't feel like doing exercises – they probably won't do much good.

See your doctor first if you have any concerns.

Take it easy with neck exercises – do not use force – only tilt half way (45 degrees) when tilting the head in chin tucks.

Some of the exercises (*) can be done while working – without the client noticing or being put off by them.

APPENDIX C: BODY MEASUREMENTS (ANTHROPOMETRIC DATA)

A: The key features of safe body positions for hairdressers are:

- Shoulders low and relaxed
- Elbows by the side – not held out or held forward
- Wrists neutral
- Looking down in a relaxed manner – Head comfortable on the top of the neck – hands not too close or too far away
- Back upright – spine not bent forward

B: As a result, the key anthropometric dimensions to be considered in hairdressing are:

- Hairdresser:
 - Standing and sitting eye heights
 - Standing and sitting shoulder heights
 - Standing and sitting elbow heights
 - Popliteal height
 - Focal distance
- Client
 - Sitting eye height
 - Popliteal heights

A and B together show that the key features of the hairdressers' workstation design are:

- Basin height – and basin height adjustability range (if fitted)
- Client chair – height and its adjustability range
- Hairdresser stool – height adjustability range
- Hairdresser stool – sitting 'philosophy'*

* Some thought will be needed around the type of seat design. Various types are available, and the pros and cons of each type would need to be teased out. Three types are illustrated.

Figure 28: Standard stools (Flat or angled seat – with or without backrest)



Figure 29: Height adjustable saddle chairs



Figure 30: Height adjustable sit – stand stools (where the person perches – as on a banister – with a large angle at the hip)



APPENDIX D: CONSULTATION

Organisations that assisted with this Evaluation include:

- ACC, Auckland, Tauranga and Wellington
- Artisan Hair Studio, Auckland
- Auckland Regional Association of Registered Hairdressers
- bambazonke Hairdressing, Wellington
- Bladeworx, Auckland
- Blue Cactus Salon, Wellington
- Buoy Hairdressing
- Classique Hair Design, Taumarunui
- Combined Salon Supplies Limited, Wellington
- Competition Committee of NZARH
- Consumer's Institute, Wellington
- Cosmetic, Toiletry, and Fragrance Association of New Zealand, Auckland
- Dateline Imports, Auckland
- David Monopoli, Nelson
- Department of Labour Wellington, Nelson and Dunedin.
- Dermatologists, Wellington, Paraparaumu,
- Ergonomics Programme, Massey University, Palmerston North
- Ergonomists, Wellington
- Faculty of Medical and Health Sciences, The University of Auckland
- Farouk Systems, Auckland
- Fraser John Salon, Auckland
- Grace Studio, Wellington
- Hair & Beauty Association of South Australia Inc.
- Hairdressing Industry Training Organisation
- Hairline, Hamilton
- Just Cuts, Wellington
- KJ Scissors, Waihi
- L'Oreal Professional Auckland
- Massey University, Ergonomics Programme, Palmerston North
- Men Barbering Company, Wellington
- Menzone, Wellington
- Ministry of Consumer Affairs
- Ministry of Health
- New Zealand Qualifications Authority (NZQA), Wellington
- Occupational Dermatology Research & Education Centre, Australia
- Occupational Health Physicians, Wellington, Christchurch and Auckland
- Partnerz N Hair, Taumarunui
- Premier Hairdressing College Ltd, Wellington
- Regional Chairperson, NZARH, Wellington
- Rodney Wayne Salons, Auckland
- School of Hair and Beauty, Manakau UCOL
- Servilles Academy of Hairdressing, Auckland
- Standards New Zealand, Wellington
- Studio 201, Auckland
- The New Zealand Association of Registered Hairdressers Inc, Wellington

- The New Zealand Hairdressing Industry Training Organisation Inc. Wellington.
- TIB Insurance Broker
- Urbane Academy, Wellington
- Wellington City Council, Health Inspectorate
- Wellington Institute of Technology (WELTEC)
- Williams & Associates Hairdressing, Wellington
- Winters, The School of Hairdressing. Auckland

FOR FURTHER INFORMATION ON HEALTH AND SAFETY VISIT WWW.DOL.GOV.NZ OR PHONE **0800 20 90 20**

