ANZHFR SA Hip Fest

Orthopaedic Perspective of Hip Fracture Care

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NALHN
Orthopaedic Perspective

3 periods:

1970-90s’

1990-2010s’

2010s’ & Beyond
National Perspective

7.2 POPULATION OF AUSTRALIA

Source: Australian Historical Population Statistics (3105.0.65.001); Australian Demographic Statistics (3101.0).

7.4 COMPONENTS OF POPULATION GROWTH, At 30 June

Source: Australian Historical Population Statistics (3105.0.65.001); Australian Demographic Statistics (3101.0).
National Perspective

7.10 PROJECTED POPULATION—At 30 June

Source: Population Projections, Australia, 2006 to 2101 (3222.0).
National Perspective

POPULATION, Age Summary indicators

<table>
<thead>
<tr>
<th>Unit</th>
<th>1901</th>
<th>1947</th>
<th>1971</th>
<th>2007(a)</th>
<th>2026(b)</th>
<th>2056</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population</td>
<td>'000</td>
<td>3 774.1</td>
<td>7 579.4</td>
<td>13 067.3</td>
<td>21 015.0</td>
<td>27 236.7</td>
</tr>
<tr>
<td>Proportion of population</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0–14 years</td>
<td>%</td>
<td>35.2</td>
<td>25.1</td>
<td>28.7</td>
<td>19.4</td>
<td>17.9</td>
</tr>
<tr>
<td>15–64 years</td>
<td>%</td>
<td>60.8</td>
<td>66.8</td>
<td>63.0</td>
<td>67.4</td>
<td>63.4</td>
</tr>
<tr>
<td>65 years and over</td>
<td>%</td>
<td>4.0</td>
<td>8.1</td>
<td>8.3</td>
<td>13.2</td>
<td>18.7</td>
</tr>
<tr>
<td>85 years and over</td>
<td>%</td>
<td>0.1</td>
<td>0.4</td>
<td>0.5</td>
<td>1.6</td>
<td>2.4</td>
</tr>
<tr>
<td>Sex ratio(c)</td>
<td>ratio</td>
<td>110.1</td>
<td>100.4</td>
<td>101.1</td>
<td>98.8</td>
<td>99.4</td>
</tr>
<tr>
<td>Median age</td>
<td>years</td>
<td>22.5</td>
<td>30.7</td>
<td>27.5</td>
<td>36.7</td>
<td>39.5</td>
</tr>
<tr>
<td>Proportion living in capital cities(d)</td>
<td>%</td>
<td>36.8</td>
<td>51.2</td>
<td>63.5</td>
<td>63.6</td>
<td>64.7</td>
</tr>
</tbody>
</table>

na not available
(a) Preliminary estimated resident population at 30 June.
(b) Series B population projections.
(c) Males per 100 females.
(d) Includes Australian Capital Territory.
Source: Australian Historical Population Statistics (3105.0.65.001); Population Projections, Australia, 2006 to 2101 (3222.0).
### INTERNATIONAL COMPARISONS: Selected countries and indicators

<table>
<thead>
<tr>
<th>Country</th>
<th>Population '000</th>
<th>Average annual growth rate 2005–2010</th>
<th>Sexes</th>
<th>Expectation of life at birth(b)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>%</td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>Australia</td>
<td>22 300</td>
<td>1.8</td>
<td>79.5</td>
<td>84</td>
</tr>
<tr>
<td>Canada</td>
<td>34 017</td>
<td>1.05</td>
<td>78.2</td>
<td>82.8</td>
</tr>
<tr>
<td>China (excludes SARs and Taiwan)</td>
<td>1 341</td>
<td>0.51</td>
<td>71.1</td>
<td>74.5</td>
</tr>
<tr>
<td>Fiji</td>
<td>861</td>
<td>0.91</td>
<td>66.1</td>
<td>71.9</td>
</tr>
<tr>
<td>France</td>
<td>62 787</td>
<td>0.58</td>
<td>77.5</td>
<td>84.3</td>
</tr>
<tr>
<td>Hong Kong (SAR of China)</td>
<td>7 053</td>
<td>0.7</td>
<td>79</td>
<td>84.3</td>
</tr>
<tr>
<td>India</td>
<td>1 224</td>
<td>1.43</td>
<td>62.8</td>
<td>65.7</td>
</tr>
<tr>
<td>Indonesia</td>
<td>239 871</td>
<td>1.08</td>
<td>66.3</td>
<td>69.4</td>
</tr>
<tr>
<td>Iraq</td>
<td>31 672</td>
<td>2.93</td>
<td>63.4</td>
<td>71.7</td>
</tr>
<tr>
<td>Japan</td>
<td>126 536</td>
<td>0.02</td>
<td>79.3</td>
<td>86.1</td>
</tr>
<tr>
<td>Malaysia</td>
<td>28 401</td>
<td>1.69</td>
<td>71.2</td>
<td>75.7</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>142 958</td>
<td>-0.12</td>
<td>61.6</td>
<td>74</td>
</tr>
<tr>
<td>Singapore</td>
<td>5 086</td>
<td>3.52</td>
<td>78.5</td>
<td>82.7</td>
</tr>
<tr>
<td>South Africa</td>
<td>50 133</td>
<td>0.96</td>
<td>50.1</td>
<td>52.1</td>
</tr>
<tr>
<td>Sudan</td>
<td>43 552</td>
<td>2.51</td>
<td>58.6</td>
<td>62</td>
</tr>
<tr>
<td>Switzerland</td>
<td>7 664</td>
<td>0.66</td>
<td>79.3</td>
<td>84.1</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>62 036</td>
<td>0.6</td>
<td>77.4</td>
<td>81.7</td>
</tr>
<tr>
<td>United States of America</td>
<td>310 384</td>
<td>0.89</td>
<td>75.4</td>
<td>80.5</td>
</tr>
<tr>
<td>World</td>
<td>6 895 889</td>
<td>1.16</td>
<td>65.7</td>
<td>70.1</td>
</tr>
</tbody>
</table>

Source: Australia data: Population, Australian Demographic Statistics, Australia (3101.0); Total fertility rates, Births, Australia (3301.0); Expectation of life at birth, Deaths, Australia (3302.0); International migration, Migration, Australia (3412.0). Selected countries data: United Nations Population Division, World Population Prospects: The 2010 Revision.
1970-1990s’

Patient Mx: “Terminal Event”
Frail, from home

“Casualty” – junior doctors
Fasting but no Rx / inadequate Rx

Emergency theatres – 24 hr surgical suites
variable surgical skills

Anaesthesia – Delays for “Medical Mx
“Trial of survival”
GA, spinal rare
1970-1990s’

Surgeons: Variable skill level
  Tired
  Technical errors (See one, Do one, Teach one)
  “Fix it first, ask question later” mentality

Limited Implant choice

Hospital / Nursing: Equipment- basic
  No rehab
  Variable DVT prophylaxis
1970-1990s’

Issues:

No Benchmark for Std of care

Those survived – painful hip
  poor mobility
  further surgery
1990-2000s’

Patient Mx: Pressure sores and DVT awareness
Rehab & Nursing Home
Introduction of Bone care

A & E Dept – Emerg Physician
More medically stable patients
Better Imaging

Emergency theatres – No surgery after midnight
1990-2000s’

Hospital / Nursing: Pressure sores beds
DVT Foot pumps etc.
Osteoporosis prevention & Rx
MRSA

Surgeons: explosion of technologies:
IMN, hemiarthroplasties, THR
better trained & better skill
Bone biology and biomechanics
Hemiarthroplasty of the hip
Achievements during the Bone and Joint Decade 2000–2010

Peter Choong a, b, Peter Brooks c, ∗

Delivered at the right time by the most appropriately trained health professional and at a reasonable cost. The Bone and Joint Decade has played a significant role in focussing researchers, clinicians and health educators on these diseases and also in drawing them to the attention of Governments around the globe. While there is still much to be done, the journey has commenced and will continue into the future.
Bone & Joint Decade

Best Practice & Research Clinical Rheumatology
Volume 26, Issue 2, April 2012, Pages 237-249

Improving musculoskeletal health: Global issues

Girish M. Mody a, Peter M. Brooks b
2010s and beyond

Major cultural change within Orthopaedics:

More direct Consultant involvement
Closer scrutiny on “decisions & technical skill”
Dedicated supervised “Trauma Lists”
Better technology, equipment and implants
Collaborations between clinicians
Implant Failures – Biology Vs Mechanics?
2010s and beyond

Better collaborative approach:
Orthogeriatric, Anaesthetists & Allied Health

Better Imaging

Expedited medical Rx / stabilisation
2010s and beyond

Team approach
Mop-up theatres / Emerge lists
Appropriate implant usage
Early mobilisation
Better thromboembolic and DVT Rx
Fracture prevention
Bone stock maintenance
Better Rehab
Now and beyond

Early med intervention
  Expedite surgery
  Early mobilisation
Better pain Mx – nerve blocks
Improved Rehab
Better falls prevention
Better bone stock Mx
Early discharge
Improved Physical & Mental health!
Cultural change

Benchmarks for comparison

Collaborative / Team approach Mx:
  Geriatrician
  Orthopods
  Anaesthetists
  Allied Health
  Rehab consultants
On the horizon….?

EMST/ATLS “Golden hour of Trauma care” model to become

“Golden hours of NOF care?”
Rapid stabilisation & admission system

Muscle mass preservation & early mobilisation

Cost of NOF Mx to include rehab, comorbidities / potential complications

Better technology, surgical techniques & anaesthesia
Summary

In the past: “System errors”

Currently: Major cultural change
Benchmarks for comparison
Focus on Collaborations and Outcomes

What’s ahead?
Golden hours of NOF admissions?
Change funding structure for NOF?
Preservation of muscle mass!
Better technologies in Trauma Mx?
Fracture prevention & bone health?