TABLE E-1 Clinical Rating System of Timmerman and Andrews*†

|  | Points |
| :---: | :---: |
| Subjective findings |  |
| Pain |  |
| None | 25 |
| Occasional | 20 |
| With moderate activity | 10 |
| With activities of daily living | 5 |
| Swelling |  |
| None | 25 |
| Occasional with heavy activity | 20 |
| With moderate activity | 10 |
| With any activity | 5 |
| Locking and/or catching |  |
| None | 25 |
| Rare | 20 |
| Occasional | 10 |
| Frequent | 5 |
| Activities |  |
| No limit | 25 |
| Occasional limit | 20 |
| Partial activities only | 10 |
| Unable to work and/or difficulty with activities of daily living | 5 |
| Objective findings |  |
| Flexion contracture |  |
| $<5^{\circ}$ | 25 |
| $5^{\circ}$ to $15^{\circ}$ | 20 |
| $16^{\circ}$ to $35^{\circ}$ | 10 |
| $>35^{\circ}$ | 0 |
| Pronation-supination |  |
| Normal | 25 |
| <30\% decrease in total arc | 20 |
| <50\% decrease in total arc | 10 |
| $>50 \%$ decrease in total arc | 0 |
| Flexion-extension total arc |  |
| $>130^{\circ}$ | 50 |
| $120^{\circ}$ to $130^{\circ}$ | 40 |
| $110^{\circ}$ to $119^{\circ}$ | 30 |
| $100^{\circ}$ to $109^{\circ}$ | 20 |
| $75^{\circ}$ to $99^{\circ}$ | 10 |
| $60^{\circ}$ to $74^{\circ}$ | 5 |
| $<60^{\circ}$ | 0 |

*Reproduced, with modification, from: Timmerman LA, Andrews JR. Arthroscopic treatment of posttraumatic elbow pain and stiffness. Am J Sports Med. 1994;22:230-5. Reproduced with permission. $\dagger$ An overall score of 180 to 200 points indicates an excellent result; 160 to 179 points, a good result; 120 to 159 points, a fair result; and <120 points, a poor result.

TABLE E-2 Magnetic Resonance Image Scoring System of Roberts et al.*

| Feature | Score $\dagger$ |
| :--- | :--- |
| Surface integrity and contour | $1=$ normal or near normal, $0=$ abnormal |
| Cartilage signal in graft region | $1=$ normal or near normal, $0=$ abnormal |
| Cartilage thickness | $1=$ normal or near normal, $0=$ abnormal |
| Changes in underlying bone | $1=$ normal or near normal, $0=$ abnormal |

*Reproduced from: Roberts S, McCall IW, Darby AJ, Menage J, Evans H, Harrison PE, Richardson JB. Autologous chondrocyte implantation for cartilage repair: monitoring its success by magnetic resonance imaging and histology. Arthritis Res Ther. 2003;5(1):R60-73. Copyright 2003 Roberts et al., licensee BioMed Central Ltd. $\dagger$ Maximum total points $=4$.

