| **Appendix 1.** Information of retrieved implant designs |
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| Hip number | Acetabular component | Femoral head component | Femoral stem component | Reason for revision |
| 1 | Polyethylene Cup (unknown) | N/A | Charnley (Thackray, Raynham, MA, USA) | Loosening/osteolysis |
| 2 | ASR Modular (DePuy, Raynham, MA, USA) | ASR Modular (DePuy) | Summit (DePuy) | ALTR |
| 3 | Trident (Stryker, Kalamazoo, MI, USA) | Biolox Forte (Ceramtec, Plochingen, Germany) | Rejuvenate **(**Stryker) | ALTR |
| 4 | Reflection (Smith & Nephew, London, UK) | Oxinium (Smith & Nephew) | Synergy (Smith & Nephew) | Infection |
| 5 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | ALTR |
| 6 | Conserve Plus Hip Resurfacing (Wright Medical, Memphis, TN, USA) | Conserve Plus Hip Resurfacing (Wright Medical) | N/A | Loosening/osteolysis |
| 7 | Unknown design | Cobalt-chrome (Zimmer, Warsaw, IN, USA) | Trabecular Metal (Zimmer) | Pain |
| 8 | Birmingham Hip Resurfacing (Smith & Nephew) | Birmingham Hip Resurfacing (Smith & Nephew) | N/A | Loosening/osteolysis |
| 9 | Trident (Stryker) | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | ALTR |
| 10 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | ALTR |
| 11 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | ALTR |
| 12 | Novation (Exactech, Gainesville, FL, USA)  | Biolox Forte (Ceramtec) | Synergy (Smith & Nephew) | Implant fracture |
| 13 | Unknown design | Zirconia (Implex) | Unknown design | Loosening/osteolysis |
| 14 | Continuum (Zimmer) | Biolox Delta (Ceramtec) | Unknown design | Instability |
| 15 | Harris-Galante (Zimmer) | Cobalt-chrome (Zimmer) | Unknown design | Loosening/osteolysis |
| 16 | Pinnacle (DePuy) | Pinnacle (DePuy) | Summit (DePuy) | ALTR |
| 17 | Trilogy (Zimmer) | Cobalt-chrome (Zimmer) | S-ROM (DePuy) | Instability |
| 18 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | Corail (DePuy) | Loosening/osteolysis |
| 19 | Birmingham Modular (Smith & Nephew) | Birmingham Modular (Smith & Nephew)  | Anthrology (Smith & Nephew) | Malalignment |
| 20 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | Unknown design | ALTR |
| 21 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | ALTR |
| 22 | ASR Modular (DePuy) | ASR Modular (DePuy) | S-ROM (DePuy) | Loosening/osteolysis |
| 23 | Trident (Stryker) | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | ALTR |
| 24 | Harris-Galante (Zimmer) | Cobalt-chrome (Zimmer) | Unknown design | ALTR |
| 25 | Birmingham Hip Resurfacing (Smith & Nephew) | Birmingham Hip Resurfacing (Smith & Nephew) | N/A | Malalignment |
| 26 | Trilogy (Zimmer) | Zirconia (Zimmer) | Unirom (DePuy) | Loosening/osteolysis |
| 27 | Unknown design | Cobalt-chrome (DePuy) | Unknown design | Loosening/osteolysis |
| 28 | Ringloc (Biomet, Warsaw, IN, USA) | Cobalt-chrome (Biomet) | Ranawat-Burstein (Biomet) | Pain |
| 29 | Trident (Stryker) | Biolox Delta (Ceramtec) | PCA (Stryker) | Infection |
| 30 | Conserve Plus Hip Resurfacing (Wright Medical) | Conserve Plus Hip Resurfacing (Wright Medical) | N/A | Pain |
| 31 | Harris-Galante (Zimmer) | Cobalt-chrome (Zimmer) | Versys (Zimmer) | Loosening/osteolysis |
| 32 | Hedrocele (Implex; Zimmer, Warsaw, IN, USA) | Zirconia (Implex) | Proxiloc (Implex) | Loosening/osteolysis |
| 33 | Modular Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | ALTR |
| 34 | Trilogy (Zimmer) | Cobalt-chrome (DePuy) | Endurance (Zimmer) | Loosening/osteolysis |
| 35 | Unknown design | Cobalt-chrome (DePuy) | Unknown design | Loosening/osteolysis |
| 36 | Unknown design | Cobalt-chrome (Stryker) | Unknown design | Infection |
| 37 | Birmingham Hip Resurfacing (Smith & Nephew) | Birmingham Hip Resurfacing (Smith & Nephew) | N/A | ALTR |
| 38 | Birmingham Hip Resurfacing (Smith & Nephew) | Birmingham Hip Resurfacing (Smith & Nephew) | N/A | ALTR |
| 39 | Ringloc (Biomet) | Cobalt-chrome (Biomet) | Ranawat-Burstein (Biomet) | Loosening/osteolysis |
| 40 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker)  | Periprosthetic fracture |
| 41 | Trilogy (Zimmer) | Cobalt-chrome (Smith & Nephew) | Specton (Smith & Nephew) | Loosening/osteolysis |
| 42 | Birmingham Hip Resurfacing (Smith & Nephew) | Birmingham Hip Resurfacing (Smith & Nephew) | N/A | ALTR |
| 43 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker)  | ALTR |
| 44 | Trilogy (Zimmer) | Cobalt-chrome (Zimmer) | Versys (Zimmer) | ALTR |
| 45 | Unknown design | Cobalt-chrome (Biomet) | Integral Centralizer (Biomet) | Loosening/osteolysis |
| 46 | Trident (Stryker) | Cobalt-chrome (Stryker) | Rejuvenate (Stryker)  | Instability |
| 47 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker)  | ALTR |
| 48 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker)  | ALTR |
| 49 | Birmingham Hip Resurfacing (Smith & Nephew) | Birmingham Hip Resurfacing (Smith & Nephew) | N/A | Pain |
| 50 | Trident (Stryker) | Cobalt-chrome (Stryker) | ABG Modular (Stryker) | ALTR |
| 51 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | Loosening/osteolysis |
| 52 | Ranawat-Burstein (Biomet) | Cobalt-chrome (Biomet) | Taperloc Microplasty (Biomet) | ALTR |
| 53 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker)  | ALTR |
| 54 | Trilogy (Zimmer) | Cobalt-chrome (Zimmer) | APS (Zimmer) | Pain |
| 55 | Trilogy (Zimmer) | Cobalt-chrome (Zimmer) | Versys (Zimmer) | Instability |
| 56 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker)  | ALTR |
| 57 | ASR Modular (DePuy) | ASR Modular (DePuy) | Summit (DePuy) | ALTR |
| 58 | Modular Dual Mobility (Stryker)  | Biolox Delta (Ceramtec) | Rejuvenate (Stryker) | ALTR |
| 59 | Trident (Stryker) | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | ALTR |
| 60 | Birmingham Hip Resurfacing (Smith & Nephew) | Birmingham Hip Resurfacing (Smith & Nephew) | N/A | Pain |
| 61 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker)  | ALTR |
| 62 | Reflection (Smith & Nephew) | Cobalt-chrome (Stryker) | Unknown design | Loosening/osteolysis |
| 63 | Unknown design | Zirconia (Implex) | S-ROM (DePuy) | Loosening/osteolysis |
| 64 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | Corail (DePuy) | ALTR |
| 65 | Birmingham Modular (Smith & Nephew) | Birmingham Modular (Smith & Nephew)  | Synergy (Smith & Nephew)  | ALTR |
| 66 | Trident (Stryker) | Cobalt-chrome (Stryker) | Secur-fit (Stryker)  | Instability |
| 67 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | Summit (DePuy) | ALTR |
| 68 | Unknown design | Ceramic (Unknown) | Zweymueller (Zimmer) | Loosening/osteolysis |
| 69 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | Prodigy (DePuy) | ALTR |
| 70 | Trilogy (Zimmer) | Cobalt-chrome (Zimmer) | ML Taper (Zimmer) | ALTR |
| 71 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | Marathon (DePuy) | Pain |
| 72 | M2a Magnum (Biomet) | Cobalt-chrome (Biomet) | APF-28 (Biomet) | Pain |
| 73 | Birmingham Hip Resurfacing (Smith & Nephew) | Birmingham Hip Resurfacing (Smith & Nephew) | N/A | ALTR |
| 74 | Trident (Stryker) | Biolox Delta (Ceramtec) | Secur-fit (Stryker)  | Loosening/osteolysis |
| 75 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker)  | ALTR |
| 76 | Trilogy (Zimmer) | Cobalt-chrome (Zimmer) | Ranawat-Burstein (Biomet) | Loosening/osteolysis |
| 77 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | Corail (DePuy) | ALTR |
| 78 | Trident (Stryker) | Biolox Delta (Ceramtec) | Rejuvenate (Stryker)  | ALTR |
| 79 | Trident (Stryker) | Biolox Forte (Ceramtec) | Unknown (Stryker)  | Pain |
| 80 | Multihole (Howmedica, Mahwah, NJ, USA) | Cobalt-chrome (Howmedica) | Meridian (Howmedica) | Loosening/osteolysis |
| 81 | Reflection (Smith & Nephew) | Cobalt-chrome (Smith & Nephew) | Synergy (Smith & Nephew) | Loosening/osteolysis |
| 82 | Tritanium (Stryker) | Cobalt-chrome (Stryker) | Accolade (Stryker) | Loosening/osteolysis |
| 83 | M2a Magnum (Biomet) | Cobalt-chrome (Biomet) | Bio-Groove (Biomet) | ALTR |
| 84 | Trident (Stryker) | Biolox Delta (Ceramtec) | Accolade (Stryker) | Malalignment |
| 85 | Reflection (Smith & Nephew) | Cobalt-chrome (Smith & Nephew) | Synergy (Smith & Nephew) | Loosening/osteolysis |
| 86 | Birmingham Hip Resurfacing (Smith & Nephew) | Birmingham Hip Resurfacing (Smith & Nephew) | N/A | Pain |
| 87 | Trilogy (Zimmer) | Cobalt-chrome (Zimmer) | ML Taper (Zimmer) | Pain |
| 88 | Trident (Stryker) | Cobalt-chrome (Stryker) | Rejuvenate (Stryker)  | ALTR |
| 89 | Continuum (Zimmer) | Cobalt-chrome (Zimmer) | ML Taper (Zimmer) | Malalignment |
| 90 | ASR Modular (DePuy) | ASR Modular (DePuy) | Summit (DePuy) | ALTR |
| 91 | Trident (Stryker) | Biolox Delta (Ceramtec) | Rejuvenate (Stryker)  | ALTR |
| 92 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | SROM (DePuy) | ALTR |
| 93 | Unknown design | Cobalt-chrome (Howmedica) | Unknown design | Loosening/osteolysis |
| 94 | Tritanium (Stryker) | Cobalt-chrome (Stryker) | Accolade (Stryker) | Loosening/osteolysis |
| 95 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker)  | ALTR |
| 96 | Durom Modular (Zimmer) | Durom Modular (Zimmer) | ML Taper (Zimmer) | ALTR |
| 97 | Durom Modular (Zimmer) | Durom Modular (Zimmer) | ML Taper (Zimmer) | ALTR |
| 98 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | ALTR |
| 99 | Birmingham Hip Resurfacing (Smith & Nephew) | Birmingham Hip Resurfacing (Smith & Nephew) | N/A | Loosening/osteolysis |
| 100 | Unknown design | Biolox Delta (Ceramtec) | Tri-lock (DePuy) | Loosening/osteolysis |
| 101 | Monoblock (Zimmer) | Biolox Forte (Ceramtec) | Novation (Exactech) | Loosening/osteolysis |
| 102 | Unknown design | Biolox Delta (Ceramtec) | Taperloc (Biomet) | Periprosthetic fracture |
| 103 | Unknown design | Biolox Delta (Ceramtec) | Kinectiv (Zimmer) | ALTR |
| 104 | Tritanium (Stryker) | Cobalt-chrome (Stryker) | Accolade (Stryker) | Loosening/osteolysis |
| 105 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | ALTR |
| 106 | Conserve Plus (Wright Medical) | Conserve Plus (Wright Medical) | N/A | Loosening/osteolysis |
| 107 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | ALTR |
| 108 | Unknown design | Cobalt-chrome (Unknown) | Unknown design | Loosening/osteolysis |
| 109 | Birmingham Hip Resurfacing (Smith & Nephew) | Birmingham Hip Resurfacing (Smith & Nephew) | N/A | Instability |
| 110 | Reflection (Smith & Nephew) | Cobalt-chrome (Smith & Nephew) | Synergy (Smith & Nephew) | Loosening/osteolysis |
| 111 | Unknown design | Cobalt-chrome (Biomet) | Ranawat-Burstein (Biomet) | Loosening/osteolysis |
| 112 | Birmingham Hip Resurfacing (Smith & Nephew) | Birmingham Hip Resurfacing (Smith & Nephew) | N/A | Loosening/osteolysis |
| 113 | Trident (Stryker) | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | ALTR |
| 114 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | SROM (DePuy) | ALTR |
| 115 | Modular Dual Mobility (Stryker)  | Biolox Delta (Ceramtec) | Rejuvenate (Stryker) | ALTR |
| 116 | Trident Constrained (Stryker) | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | ALTR |
| 117 | Unknown design | Cobalt-chrome (Orthomet, Arlington, TN) | Unknown design | Loosening/osteolysis |
| 118 | Tritanium (Stryker) | Biolox Delta (Ceramtec) | Trabecular Metal (Zimmer) | Malalignment |
| 119 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | ALTR |
| 120 | Trident (Stryker) | Biolox Delta (Ceramtec) | Secur-fit (Stryker)  | Loosening/osteolysis |
| 121 | Trilogy (Zimmer) | Unknown design | Versys (Zimmer) | Loosening/osteolysis |
| 122 | Ringloc (Biomet) | Zirconia (Implex) | Taperloc (Biomet) | Loosening/osteolysis |
| 123 | Reflection (Smith & Nephew) | Cobalt-chrome (Smith & Nephew) | Synergy (Smith & Nephew)  | Loosening/osteolysis |
| 124 | Birmingham Hip Resurfacing (Smith & Nephew) | Birmingham Hip Resurfacing (Smith & Nephew) | N/A | Loosening/osteolysis |
| 125 | Unknown design | Cobalt-chrome (Unknown) | Custom stem | Loosening/osteolysis |
| 126 | Birmingham Hip Resurfacing (Smith & Nephew) | Birmingham Hip Resurfacing (Smith & Nephew) | N/A | ALTR |
| 127 | Trilogy (Zimmer) | Cobalt-chrome (Stryker) | Omnifit (Stryker) | Loosening/osteolysis |
| 128 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | Summit (DePuy) | ALTR |
| 129 | G7 (Biomet) | Biolox Delta (Ceramtec) | Taperloc (Biomet) | Pain |
| 130 | No Hole (Osteonics; Stryker, Kalamazoo, MI, USA) | Cobalt-chrome (DePuy) | SROM (DePuy) | Loosening/osteolysis |
| 131 | Trident (Stryker) | Biolox Delta (Ceramtec) | Summit (DePuy) | Pain |
| 132 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | Corail (DePuy) | Pain |
| 133 | Birmingham Hip Resurfacing (Smith & Nephew) | Birmingham Hip Resurfacing (Smith & Nephew) | N/A | ALTR |
| 134 | Reflection (Smith & Nephew) | Cobalt-chrome (Smith & Nephew) | Synergy (Smith & Nephew) | Loosening/osteolysis |
| 135 | Unknown design | Zirconia (Implex) | Bio-Groove (Biomet) | Loosening/osteolysis |
| 136 | ASR Modular (DePuy) | ASR Modular (DePuy) | Summit (DePuy) | ALTR |
| 137 | MAKO Restoris (Stryker) | MAKO Restoris (Stryker) | MAKO Restoris (Stryker) | Loosening/osteolysis |
| 138 | Custom Anatomic (Biomet) | Cobalt-chrome (Biomet) | Custom Anatomic (Biomet) | Loosening/osteolysis |
| 139 | Reflection (Smith & Nephew) | Biolox Forte (Ceramtec) | Synergy (Smith & Nephew) | ALTR |
| 140 | Trident (Stryker) | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | ALTR |
| 141 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | SROM (DePuy) | ALTR |
| 142 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | SROM (DePuy) | Loosening/osteolysis |
| 143 | Unknown design | Cobalt-chrome (Zimmer) | ML Taper (Zimmer) | Loosening/osteolysis |
| 144 | Beaded monoblock (Howmedica) | Cobalt-chrome (Howmedica) | Unknown design | Pain |
| 145 | Unknown design | Biolox Forte (Ceramtec) | ABG Modular (Stryker) | ALTR |
| 146 | R3 O Hole (Smith & Nephew) | Oxinium (Smith & Nephew) | Synergy (Smith & Nephew) | Pain |
| 147 | Trident (Stryker) | Cobalt-chrome (Stryker) | Accolade (Stryker) | Instability |
| 148 | Beaded shell (Wright Medical) | Biolox Forte (Ceramtec) | Profemur (Wright Medical) | Loosening/osteolysis |
| 149 | Unknown design | Cobalt-chrome (Exactech) | Novation (Exactech) | Loosening/osteolysis |
| 150 | Ranawat-Burstein (Biomet) | Cobalt-chrome (Biomet) | Ranawat-Burstein (Biomet) | Loosening/osteolysis |
| 151 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | Summit (DePuy) | Loosening/osteolysis |
| 152 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | Summit (DePuy) | ALTR |
| 153 | G7 (Biomet) | Biolox Delta Option (Ceramtec) | Taperloc (Biomet) | ALTR |
| 154 | Unknown design | Biolox Forte (Ceramtec) | Marathon (DePuy) | Loosening/osteolysis |
| 155 | Trident (Stryker) | Biolox Forte (Ceramtec) | Accolade (Stryker) | Pain |
| 156 | MAKO Restoris (Stryker)  | Biolox Delta (CeramTec) | MAKO Restoris (Stryker)  | Instability |
| 157 | Pinnacle (DePuy) | Biolox Delta (CeramTec) | Summit (DePuy) | Pain |
| 158 | M2a Magnum (Biomet) | Cobalt-chrome (Biomet) | Bio-Groove (Biomet) | Loosening/osteolysis |
| 159 | Ringloc (Biomet) | Cobalt-chrome (Biomet) | Bio-Groove (Biomet) | Loosening/osteolysis |
| 160 | Trident (Stryker) | Cobalt-chrome (Stryker) | Unknown design | ALTR |
| 161 | Trident (Stryker) | Biolox Delta (Ceramtec) | Rejuvenate (Stryker) | ALTR |
| 162 | R3 O Hole (Smith & Nephew) | Birmingham Modular (Smith & Nephew)  | Synergy (Smith & Nephew)  | ALTR |
| 163 | R3 O Hole (Smith & Nephew) | Oxinium (Smith & Nephew)  | Synergy (Smith & Nephew)  | Instability |
| 164 | Trident (Stryker) | Biolox Delta (Ceramtec) | Secur-fit Max (Stryker) | ALTR |
| 165 | Trident (Stryker) | Biolox Delta (Ceramtec) | Secur-fit Max (Stryker) | ALTR |
| 166 | Trident (Stryker) | Biolox Delta (Ceramtec) | Securfit (Stryker) | Instability |
| 167 | Trident (Stryker) | Cobalt-chrome (Stryker) | Securfit (Stryker) | Loosening/osteolysis |
| 168 | Modular Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | Loosening/osteolysis |
| 169 | Conserve Plus (Wright Medical) | Conserve Plus (Wright Medical) | N/A | Loosening/osteolysis |
| 170 | Durom Modular (Zimmer) | Durom Modular (Zimmer) | Kinectiv (Zimmer) | ALTR |
| 171 | Unknown design | Cobalt-chrome (Stryker) | Accolade (Stryker) | Loosening/osteolysis |
| 172 | Unknown design | Cobalt-chrome (Biomet) | Ranawat-Burstein (Biomet) | Loosening/osteolysis |
| 173 | Conserve Plus (Wright Medical) | Conserve Plus (Wright Medical) | N/A | Loosening/osteolysis |
| 174 | Trabecular Metal Cluster Hole (Zimmer) | Biolox Forte (Ceramtec) | Novation (Exactech)  | Pain |
| 175 | Trident (Stryker) | Biolox Forte (Ceramtec) | Accolade (Stryker) | Heterotopic ossification |
| 176 | Ranawat-Burstein (Biomet) | Zirconia (Implex) | Ranawat-Burstein (Biomet) | Loosening/osteolysis |
| 177 | Conserve Modular (Wright Medical) | Conserve Modular (Wright Medical) | Profemur (Wright Medical) | ALTR |
| 178 | Pinnacle (DePuy) | Cobalt-chrome (DePuy) | Corail (DePuy) | Loosening/osteolysis |
| 179 | Trilogy (Zimmer) | Zirconia (Implex) | Versys (Zimmer) | Loosening/osteolysis |
| 180 | Trilogy Cluster Hole (Zimmer) | Cobalt-chrome (Zimmer) | Trabecular Metal (Zimmer) | ALTR |
| 181 | Anatomic Dual Mobility (Stryker)  | Cobalt-chrome (Stryker) | Rejuvenate (Stryker) | Pain |
| 182 | Trilogy Cluster Hole (Zimmer) | Biolox Delta (Ceramtec) | Anatomic (Zimmer)  | Instability |
| 183 | Trident (Stryker)  | Biolox Delta (Ceramtec) | Summit (DePuy) | Loosening/osteolysis |
| 184 | Harris-Galante (Zimmer) | Cobalt-chrome (Osteonics) | Unknown design | Loosening/osteolysis |
| 185 | M2a Magnum (Biomet) | Cobalt-chrome (Biomet) | Unknown design | Metallosis |
| 186 | ASR Modular (DePuy) | ASR Modular (DePuy) | Unknown design | ALTR |
| 187 | Pinnacle (DePuy) | Pinnacle (DePuy) | SROM (DePuy) | Loosening/osteolysis |
| The femoral stem is listed as “N/A” if the implant was a hip resurfacing design; ALTR = adverse local tissue reaction. |  |