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(56) **References Cited**

U.S. PATENT DOCUMENTS

1,947,166	A		2/1934	Nydegger
2,162,115	A		6/1939	Pauls
2,836,181	A		5/1958	Tapp
2,936,257	A		5/1960	Nailler et al.
3,463,197	A		8/1969	Slade
3,479,670	A		11/1969	Medell
3,620,218	A		11/1971	Schmitt
3,868,956	A		3/1975	Alfidi et al.
4,003,289	A		1/1977	Yamashita
4,081,885	A		4/1978	Shank
4,418,693	A		12/1983	LeVeen et al.
4,441,215	A		4/1984	Kaster
4,469,101	A		9/1984	Coleman et al.
4,503,569	A		3/1985	Dotter
4,518,444	A		5/1985	Albrecht et al.
4,567,917	A		2/1986	Millard
4,580,568	A		4/1986	Gianturco
4,619,246	A		10/1986	Molgaard-Nielsen et al.
4,655,771	A		4/1987	Wallsten
4,665,906	A		5/1987	Jervis
4,728,328	A		3/1988	Hughes et al.
4,733,665	A		3/1988	Palmaz
4,739,762	A		4/1988	Palmaz
4,768,507	A		9/1988	Fischell et al.
4,771,773	A		9/1988	Kropf
4,776,337	A		10/1988	Palmaz
4,850,999	A		7/1989	Planck
4,877,030	A		10/1989	Beck et al.
4,893,543	A		1/1990	Phillips
4,922,905	A		5/1990	Strecker
4,950,227	A		8/1990	Savin et al.
4,954,126	A		9/1990	Wallsten
4,960,410	A		10/1990	Pinchuk
4,969,458	A		11/1990	Wiktor
4,990,151	A		2/1991	Wallsten
4,992,905	A		2/1991	MacDougall et al.
4,994,071	A		2/1991	MacGregor
4,997,440	A		3/1991	Dumican
5,015,253	A		5/1991	MacGregor
5,019,085	A		5/1991	Hillstead
5,019,090	A		5/1991	Pinchuk
5,026,377	A		6/1991	Burton et al.
5,035,706	A	*	7/1991	Giantureo A61F 2/86 606/198
5,059,211	A		10/1991	Stack et al.
5,061,275	A		10/1991	Wallsten et al.
5,064,435	A		11/1991	Porter
5,067,957	A		11/1991	Jervis
5,102,417	A		4/1992	Palmaz
5,104,404	A		4/1992	Wolff
5,107,852	A		4/1992	Davidson et al.
5,116,365	A		5/1992	Hillstead
5,133,732	A		7/1992	Wiktor
5,135,536	A		8/1992	Hillstead
5,159,920	A		11/1992	Condon et al.
5,171,262	A		12/1992	MacGregor
5,180,376	A		1/1993	Fischell
5,190,546	A		3/1993	Jervis
5,201,757	A		4/1993	Heyn et al.
5,201,901	A		4/1993	Harada et al.
5,211,658	A		5/1993	Clouse
5,219,355	A		6/1993	Parodi et al.
5,234,457	A		8/1993	Andersen
5,246,445	A		9/1993	Yachia et al.
5,256,158	A		10/1993	Tolkoff et al.
5,261,916	A		11/1993	Engelson
5,282,823	A		2/1994	Schwartz et al.
5,282,824	A		2/1994	Gianturco
5,304,220	A		4/1994	Maginot
5,306,286	A		4/1994	Stack et al.
5,342,387	A		8/1994	Summers
5,350,398	A		9/1994	Pavcnik et al.
5,360,443	A		11/1994	Barone et al.
5,366,504	A		11/1994	Andersen et al.
5,372,600	A		12/1994	Beyar et al.
5,375,612	A		12/1994	Cottenceau et al.
5,376,077	A		12/1994	Gomringer
5,382,259	A		1/1995	Phelps et al.
5,383,887	A		1/1995	Nadal
5,383,925	A		1/1995	Schmitt
5,389,106	A		2/1995	Tower
5,391,172	A		2/1995	Williams et al.
5,395,390	A		3/1995	Simon et al.
5,405,377	A		4/1995	Cragg
5,405,378	A		4/1995	Strecker
5,411,507	A		5/1995	Heckele
5,411,549	A		5/1995	Peters
5,415,664	A		5/1995	Pinchuk
5,419,231	A		5/1995	Earle, III et al.
D359,802	S		6/1995	Fontaine
5,425,739	A		6/1995	Jessen
5,425,984	A		6/1995	Kennedy et al.
5,433,723	A		7/1995	Lindenberg et al.
5,433,729	A		7/1995	Adams et al.
5,443,458	A		8/1995	Eury
5,443,496	A		8/1995	Schwartz et al.
5,443,499	A		8/1995	Schmitt
5,454,795	A		10/1995	Samson
5,458,615	A		10/1995	Klemm et al.
5,464,408	A		11/1995	Duc
5,474,563	A		12/1995	Myler et al.
5,476,508	A		12/1995	Amstrup
5,478,355	A		12/1995	Muth et al.
5,480,423	A		1/1996	Ravenscroft et al.
5,484,425	A		1/1996	Fischell et al.
5,484,444	A		1/1996	Braunschweiler et al.
5,485,774	A		1/1996	Osborne
5,496,277	A		3/1996	Termin et al.
5,503,636	A		4/1996	Schmitt et al.
5,507,769	A		4/1996	Marin et al.
5,527,282	A		6/1996	Segal
5,527,324	A		6/1996	Krantz et al.
5,527,337	A		6/1996	Stack et al.
5,534,007	A		7/1996	St. Germain et al.
5,534,287	A		7/1996	Lukic
5,536,274	A		7/1996	Neuss
5,540,712	A		7/1996	Kleshinski et al.
5,545,211	A		8/1996	An et al.
5,551,954	A		9/1996	Buscemi et al.