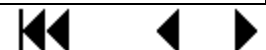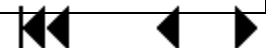# APPENDIX C. EVIDENCE TABLES

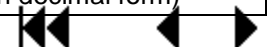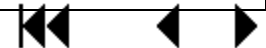| Author Year Country	Design (Single or Multi-Center) Prospectively registered	Intervention	Comparison	Sample Size (Patients) Mean Age % Female	Duration of Follow-up	Outcomes
Marchini, 2007[10] Italy	RCT Multi-site Not reported as registered	1) 1CU (accommodative) 2) Crystalens AT-45	Conventional monofocal IOL	38 Mean age = NR %Female = NR	12 months	VA - BCDVA o 1CU (0.02) o AT-45 (0.04) o ACR6D (0.04) - UCNVA – just states not sig different (no actual data) - Best-corrected near-distance VA – "excellent and comparable between 3 groups" Other - Change in ACD (mm) o 1CU (0.09) o AT-45 (0.17) o ACR6D (-0.03) o P = 0.002 - Change in SPCA (mm) o 1CU (2.78) o AT-45 (2.08) o ACR6D (1.78) o P = 0.816 - NDRA (diopters) o 1CU (1.29) o AT-45 (1.50) o ACR6D (2.15) o P = 0.002 - AA (diopters) o 1CU (1.40) o AT-45 (0.96) o ACR6D (1.23) o P = 0.102 - Distance corrected NVA (Jaeger) o 1CU (7) o AT-45 (10)

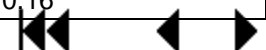|						
						o ACR6D (13) o P = 0.001

Zeng, 2007[11]
China
	RCT
	Single-site
	Not reported as
	registered
		Array SA40N	1) AcrySof
			SA60AT
			2) Tecnis
			Aspherical
				124
				Mean age = 65.4
				%Female = NR
					3 months	VA
						- BCVA
						    o Z9001 (0.00)
						    o SA40N (0.01)
						    o SA60AT (0.01)
						    o P = 0.303
						Corneal aberrations
						- No sig difference btw IOL groups
						- Spherical aberration
						    o Z9001 (0.24)
						    o SA40N (0.21)
						    o SA60AT (0.26)
						    o P = 0.81
						- Coma
						    o Z9001 (0.35)
						    o SA40N (0.33)
						    o SA60AT (0.32)
						    o P = 0.54
						- RMS
						    o Z9001 (1.54)
						    o SA40N (1.58)
						    o SA60AT (1.62)
						    o P = 0.37
						Higher-order aberrations
						- SA40N > SA60AT > Z9001
						- C12
						    o Z9001 (0.05)
						    o SA40N (0.40)
						    o SA60AT (0.20)
						    o P = 0.000
						- RMS4
						    o Z9001 (0.26)
						    o SA40N (0.45)
						    o SA60AT (0.32)
						    o P = 0.000
						- RMSH
						    o Z9001 (0.45)
						    o SA40N (1.02)
						    o SA60AT (0.69)
						    o P = 0.000
						Contrast sensitivity

						- Measure with and without glare at 4 spatial frequencies
						- Z9001 > SA60AT > SA40N (P<0.01)
						- Examples:
						- Glare Cpd 6
						    o Z9001 (1.87)
						    o SA40N (1.69)
						    o SA60AT (1.71)
						    o P = 0.004
						- Without glare CPD6
						    o Z9001 (1.97)
						    o SA40N (1.68)
						    o SA60AT (1.72)
						    o P = 0.000

Cillino, 2008[15]
Italy
	RCT
	Single site
	Not reported as registered
		1) Rezoom NXG1
		2) Tecnis ZM900
		3) Array SA40N
			AR40 (US monofocal)	68
				Mean age = 62.3
				% Female = 53.2
					12 months	1) Complete spectacle independence
						   Tecnis ZM900 87.5%[+]
						   Rezoom NXG1 53.5%[+]
						   Array SA40N 43.7%*
						   AR40 20%*
						   ([+] p < 0.05; * p = 0.53)
						2) VF7
						  Mean score
						   Tecnis ZM900 99.1
						   Rezoom NXG1 94.6
						   Array SA40N 93.8
						   AR40 87.1
						   (p = 0.002)
						
						  Difficulty reading small print
						  - Tecnis ZM900 – 98.9
						  - Rezoom NXG1 – 78.1
						  - Array SA40N – 73.3
						  - AR40 – 56.7
						  - P < 0.0005
						  Fine handwork
						  - Tecnis ZM900 – 94.6
						  - Rezoom NXG1 – 92.2
						  - Array SA40N – 96.7
						  - AR40 – 56.7
						  - P < 0.0005
						
						3) VA (mean Snellen in decimal form)

						Uncorrected distance VA - Tecnis ZM900 – 0.69 - Rezoom NXG1 – 0.86 - Array SA40N – 0.87 - AR40 – 0.79 - P = 0.134 Best corrected distance VA - Tecnis ZM900 – 0.99 - Rezoom NXG1 – 0.98 - Array SA40N – 0.97 - AR40 – 1.00 - P = 0.958 Uncorrected near VA - Tecnis ZM900 – 0.72 - Rezoom NXG1 – 0.61 - Array SA40N – 0.63 - AR40 – 0.42 - P < 0.0005 Best corrected near VA - Tecnis ZM900 – 0.84 - Rezoom NXG1 – 0.81 - Array SA40N – 0.87 - AR40 – 0.80 - P = 0.501 Best corrected distance near VA - Tecnis ZM900 – 0.78 - Rezoom NXG1 – 0.56 - Array SA40N – 0.63 - AR40 – 0.39 - P < 0.0005 Uncorrected intermediate VA - Tecnis ZM900 – 0.69 - Rezoom NXG1 – 0.75 - Array SA40N – 0.67 - AR40 – 0.61 - P = 0.001 Best corrected intermediate VA

						- Tecnis ZM900 – 0.90
						- Rezoom NXG1 – 0.75
						- Array SA40N – 0.83
						- AR40 – 0.77
						- P = 0.316
						
						4) Contrast sensitivity curve
						    - ZM900 and AR40 better than
						    Rezoom and Array (P = 0.038)
						
						5) Glare (# cases)
						- Tecnis ZM900 – 1
						- Rezoom NXG1 – 5
						- Array SA40N – 1
						- AR40 – 1
						- P > 0.05
						
						6) Halo (# cases)
						- Tecnis ZM900 – 2
						- Rezoom NXG1 – 9
						- Array SA40N – 7
						- AR40 – 0
						   o ZM900 v Rezoom = 0.017
						   o Rezoom v Mono = 0.0007
						   o Array v Mono = 0.007
						7) Overall patient satisfaction
						- Tecnis ZM900 – 4.7
						- Rezoom NXG1 – 4.5
						- Array SA40N – 4.4
						- AR40 – 4.6
						- P = 0.071

Palmer, 2008[18] Spain	RCT Single site Not reported as registered	1) Tecnis MFIOL ZM900 2) ReZoom (zonal refractive) 3) Twin Set (asymmetric diffractive)	Tecnis Z9000 (monofocal)	114 patients Mean age = 73.7 % Female = 62.5	3 months	Spectacle independence Tecnis Z9000 4% Twinset 87.5% Tecnis ZM900 77% Rezoom 44% Visual Acuity Binocular distance UCVA Tecnis Z9000 0.13 Twinset 0.18 Tecnis ZM900 0.14 ReZoom 0.16

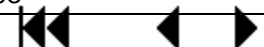|						
						Binocular CDVA Tecnis Z9000 0.05 Twinset 0.08 Tecnis ZM900 0.07 ReZoom 0.11 Binocular CNVA Tecnis Z9000 0.04 Twinset 0.01 Tecnis ZM900 0.01 ReZoom 0.03 Photopsia Tecnis Z9000 81% Twinset 47% Tecnis ZM900 48% ReZoom 53%
Zhao, 2010[14] China	RCT Single site Not reported as registered	ReSTOR SA60D3	Acrysof SA60AT	161 patients Mean age = 66 % Female = 47.2	6 months	Spectacle independence ReSTOR 66.6% Monofocal 23.5% ($p < 0.05$) VF 7 Post-operative score ReSTOR 97.3 Monofocal 89.8 ($p < 0.05$) Patient satisfaction score (1 to 5) ReSTOR 4.7 Monofocal 4.3 (p = not significant) Halos ReSTOR 43.1% Monofocal 20.2% ($p < 0.01$) Contrast sensitivity: not significant

Alio, 2011[16]
Spain
	RCT
	Single site
	Not reported as
	registered
		1) AcrySof
		ReSTOR
		SN6AD3
		2) Acri.LISA
		366D (Non-US,
		diffractive MF)
			Acri.Smart 48S
			(Non-US,
			monofocal)
				53
				Mean age = 63
				% Female = NR
					3 months	VA
						
						- UDVA (logmar)
						   o Acri.Smart (0.03)
						   o ReSTOR (0.05)
						   o Acri.LISA (0.05)
						   o Monofocal better (P = 0.01)
						- CDVA
						   o Acri.Smart (0.02)
						   o ReSTOR (0.02)
						   o Acri.LISA (0.00)
						   o No difference (P = 0.24)
						- UNVA
						   o Acri.Smart (0.47)
						   o ReSTOR (0.28)
						   o Acri.LISA (0.19)
						   o Multifocal better (P <0.01)

Alio 2011[9]
Spain
	RCT
	Multi-site
	Not reported as
	registered
		1) AcrySof
		ReSTOR
		SN6AD3
		2) Acri.LISA
		366D (Non-US,
		diffractive MF)
		3) ReZoom
			Acri.Smart 48S
			(Non-US,
			monofocal)
				152
				Mean age = 71
				%Female = NR
					6 months	VA
						
						- UDVA (logmar)
						   o Acri.Smart (0.09)
						   o ReSTOR (0.15)
						   o Acri.LISA (0.12)
						   o Rezoom (0.12)
						   o Monofocal better (P = 0.02)
						- CDVA
						   o Acri.Smart (0.04)
						   o ReSTOR (0.06)
						   o Acri.LISA (0.06)
						   o Rezoom (0.06)
						   o No difference (P = 0.25)
						- Reading acuity
						   o Only graphical data
						   o ReSTOR and Acri.LISA
						      better than monofocal
						      (P<0.01)
						- Smallest print size
						   o ReSTOR and Acri.LISA
						      better than monofocal and
						      Rezoom (P<0.01)
						- Reading speed and distance
						Difficult to interpret ? relevant

| Ji, 2012[12] China | RCT Single site Not reported as registered | Acrysof ReSTOR (? Model #) | Acrysof Natural (Monofocal, ? Model #) | 51 (64 eyes) Mean age = 63.1 % Female = 56.9 | 3 months | 1) VA
　Best corrected distance VA
　　Acrysof ReSTOR　0.71
　　Acrysof Natural　　0.75
　　No significant difference (p = 0.77)
　Uncorrected near VA
　　Acrysof ReSTOR　0.58
　　Acrysof Natural　　0.21
　　(p = 0.008)

2) Contrast sensitivity
　Measured mesopic/photopic at 6 spatial frequencies
　　-Multifocal scored lower than monofocal under all conditions all P<0.05
　Example:
　Mesopic, 2.5 spatial freq
　- ReSTOR 33.46
　- Natural　41.67
　- P = 0.03
　Photopic, 2.5 spatial freq
　- ReSTOR 15.57
　- Natural　22.83
　- P = 0.02
3) Wavefront analysis
　RMS
　4mm pupil
　- ReSTOR 0.21
　- Natural　0.50
　- P = 0.00
　6mm pupil
　- ReSTOR 0.41
　- Natural　0.96
　- P = 0.02
　Not sure if these are useful |
| Peng, 2012[13] China | RCT Single site Not reported as registered | ReSTOR Sn6AD1 | Alcon SN60WF | 102 patients Mean age = 66 % Female = 52.4 | 6 months | Spectacle independence
ReSTOR　　　　74%
Monofocal　　　28.9%

Visual acuity
Uncorrected distance – VA
ReSTOR　　　　.03 |

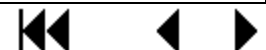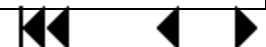| | | | | | | Monofocal   .08
Uncorrected near VA
ReSTOR   .07
Monofocal   .64
Visual Disturbance
ReSTOR > Monofocal for glare, night driving, halos
Example: problems with night vision
1.2 vs 0.6 on 0 to 7 impact rating scare
Monofocal IOL > ReSTOR got blurry near vision

Patient satisfaction
ReSTOR   8.14
Monofocal   6.23
(P < 0.001)

Contrast:
MTF 3.0mm ReSTOR worse at 5 – 10 cpd
MTF 5.00 – no difference |
| Rasp, 2012[19]
Austria | RCT
Single site | 1) Acrysof ReSTOR SN6AD3
2) AT.LISA 366D (Non-US, diffractive MF)
3) Rezoom NXG1
4)Tecnis ZMA00 | Acri.Smart 48S (Non-US, monofocal) | 143
Mean age = 75.9
% female = NR | 12 months | 1) VA
- Uncorrected distance VA (logMAR)
    - Acri-Smart (0.08)
    - Acri.LISA (0.16)
    - ReSTOR (0.17)
    - Rezoom (0.11)
    - ZMA00 (0.10)
- No significant difference reported
Corrected distance VA (logMAR)
    - Acri-Smart (0.03)
    - Acri.LISA (0.05)
    - ReSTOR (0.11)
    - Rezoom (0.07)
    - ZMA00 (0.05)
    - No significant difference reported
2) Reading performance
- Uncorrected reading acuity (logRAD)
    - Acri-Smart (0.47)
    - Acri.LISA (0.23)
    - ReSTOR (0.28)
    - Rezoom (0.40)
    - ZMA00 (0.27) |

						- All multifocals better than monofocal (P < 0.001)
						- Reading speed
						    - Uncorrected (WPM)
						        - Acri-Smart (148)
						        - Acri.LISA (178)
						        - ReSTOR (147)
						        - Rezoom (152)
						        - ZMA00 (139)
						        - P values:
						- Acrismart vs AcriLISA(0.001)
						- ReSTOR vs AcriLISA (0.003)
						- Rezoom vs AcriLISA (0.016)
						- Tecnis vs AcriLISA (0.00)
						
						    - Corrected
						- No significant difference (P>0.21)
						
						- Reading distance (cm)
						    - Uncorrected
						- Acri.LISA (31.6), ReSTOR (31.8), and ZMA00 (32.1) better than Acri.Smart (38.9) and Rezoom (37.1)
						
						P values:
						- Significant difference between AcriSmart vs AcriLISA/ReSTOR/ZMA00 (P=0.00)
						- Significant difference between Rezoom vs AcriLISA/ReSTOR/ZMA00 (P = 0.04)
						
						    - Corrected
						- Acri.LISA (31.3), ReSTOR (31.4), and ZMA00 (30.8) better than Acri.Smart (36.7) and Rezoom (35.5)
						P value:
						Significant difference between AcriSmart vs AcriLISA/ReSTOR/ZMA00 (P = 0.006)
						
						- Smallest print size (mm)
						- Acri.LISA (0.74) ReSTOR (0.87) and ZMA00 (0.87) better than Acri.Smart (1.76) and Rezoom (1.38) (P = 0.26)

Wilkins, 2013[8] England	RCT Multi-site Registered on controlled-trials.com, ISRCTN37400841	Tecnis ZM900	Akreos AO with monovision	212 patients Mean age = 67.8 % Female = 56.6	4 months	Spectacle independence (do you wear glasses?)
						VF -11R (pre to post) TecnisZM900 Pre 2.7 Post 3.4 Monovision Pre 2.66 Post 3.25 (p = not significant) Visual acuity Binocular UDVA (p = 0.377) Monovision 0.06 MFIOL 0.08 Binocular UIVA (p = 0.000) Monovision 0.15 MFIOL 0.22 Binocular UNVA (p=0.037) Monovision 0.01 MFIOL -0.03 Contrast TecnisZM900 1.39 Monovision 1.45 (P=0.009)
Labiris, 2015[17] Greece	RCT Single site Registered on clinicaltrials.gov, NCT81998698	Isert PY60MV (Non-US, refractive MF)	Mini-monovision with Alcon SN60WF	75 Mean age = 60.4 % female = NR	6 months	Spectacle independence Intervention: 65.7% Comparison: 31.4% VF-14 score Intervention: 90.1

Spectacle independence (first cell detail):

	Tecnis	Monovision
Always	2.1%	3.2%
Sometimes	36.6%	71%
Never	71.3%	25.8%

Glare/Dazzle:

Glare/Dazzle	Monovision	MFIOL
None	44	21
Barely	37	36
Annoying	16	36
Debilitating	2	6

						Comparison: 91.6
						(p=0.11)
						VF-14 near vision
						    Intervention: 91.4
						    Comparison: 89.0
						    (p=0.09)
						VF-14 distance vision
						    Intervention: 89.1
						    Comparison: 92.9
						    (p=.08)
						
						VA:
						    UDVA
						        Intervention: 0.92
						        Comparison: 0.95
						        (p = 0.15)
						    UNVA
						        Intervention: 1.21
						        Comparison: 1.87
						        (p = 0.47)
						
						Other visual tests:
						Contrast sensitivity
						    Intervention: 1.40
						    Comparison: 1.39
						    (p = 0.41)
						Glare (4-point scale)
						    Intervention: 0.21
						    Comparison: 0.06
						    (p = 0.08)
						Shadows
						    Intervention: 0.57
						    Comparison: 0.21
						    (p = 0.02)
						Stereopsis
						    Intervention: 75
						    Comparison: 71
						    (p = 0.12)