

MID-TERM EVALUATION
ARMENIA PROSTHETICS/ORTHOTICS
WORLD REHABILITATION FUND
AID GRANT ANE 0001-A-00-0054-00

TEAM MEMBERS:

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This report was written by Michael Quigley and Bernie Chapnick who assume full responsibility for its contents. The opinions expressed do not necessarily represent the views of AID or WRF.

SUMMARY

The World Rehabilitation Fund (WRF) prosthetics project began to utilize AID funds in late 1990 in response to the earthquake of December 1988 (the WRF project began in 1989 utilizing private funds). It has joint training and production objectives, and has been reasonably successful in training Armenian prosthetists, and in producing quality prostheses.

Prosthetic services available in Armenia before the earthquake were provided in Yerevan by a small Soviet workshop which is still in operation, and which produces about 200 prostheses (artificial limbs) and a limited number of orthoses (orthopedic braces) annually. The technology and equipment are antiquated and the production methods slow and extremely labor-intensive, but the total production utilizes indigenous materials, and is sustainable by the Ministry of Social Welfare.

The prosthetics/orthotics field mushroomed following the earthquake with the German Red Cross opening a prosthetics production facility, GTZ (the German Aid Agency) opening a state-of-the-art teaching facility, Project Hope opening a pediatric orthotics production facility, and the International Federation of Red Cross and Red Crescent Societies opening an orthotics production facility, as well as the WRF project.

At the time these projects were planned and initiated, Armenia was a relatively prosperous and peaceful part of the USSR. It is now a poor quasi-independent country at war, and blockaded from normal commerce. The dramatic changes in world circumstances have had profound effects not only on the Armenian economy and the Government's ability to sustain these projects, but they have also reduced the total area to be served (e.g., the GTZ project was to have been a training center for the USSR), and the war has produced an acute rise in the number of amputees (both military and civilian), who now greatly outnumber the earthquake victims who were the original target group of the project. While no hard data exist, the number of amputees is estimated at 3,000, with waiting lists of several hundred at both of the prosthetic production facilities. The turbulent situation has exacerbated the already difficult supply and management problems, with power outages, fuel shortages, and runaway inflation added to the standard difficulties of a non-convertible currency and a state-socialist economy.

The WRF facility produces about 200 limbs per year (see production statistics table) utilizing imported machinery (purchased by matching funds prior to AID's involvement), imported equipment and largely imported supplies at cost levels which are not sustainable by the Ministry. As the project heads towards conclusion, the first attempts are being made to utilize Russian-made components which can be purchased with Rubles (still

used as the currency in Armenia). An attempt to charge nominal fees is still in the discussion stage (all limbs are now free). The WRF trainees are paid by WRF at levels many times higher than the Ministry standards (as are all the trainees at the other donor projects). The Ministry pays the prosthetist-trainees a fee per limb which is minimal and clearly insufficient to retain the staff.

The project has trained a group of Armenian prosthetists, five or six of whom are considered technically competent to continue after the project's end. This is remarkably successful given the extreme difficulty which WRF has had in posting and retaining professional staff on-site. The turnover and different training approaches of the revolving instructors has been a serious training impediment. This turnover has also left managerial gaps and a patchwork materials ordering system which has resulted in a shortage of some items, and a lifetime supply of others. Despite these problems, the Ministry seems to accord the project a high priority, the demand for service greatly exceeds supply, the quality of the limbs is adequate by US standards, and the staff appears to be dedicated and anxious to do a good job.

PROJECT DESCRIPTION

Initiated on September 28, 1990 (almost two years after the earthquake), the \$900,000 AID grant to the World Rehabilitation Fund (WRF) has four objectives:

- 1) Provide prosthetic/orthotic lower limb devices and certain other medical rehabilitation services to victims of the Armenian earthquake;
- 2) Provide education and training in upper limb prostheses/orthoses to a selected group of Armenian prosthetic/orthotic trainees;
- 3) Provide orientation to medical rehabilitation to selected Armenian physicians; and
- 4) Conduct a 3 month training course in a US rehabilitation center for an advanced Armenian physician (Dr. Armen Sarkisian at the Rusk Institute of Rehabilitation Medicine).

Physically located in an old unheated building in Yerevan which also houses the small antiquated Soviet prosthetic/orthotic workshop, the program is in its third and final year. There are eight Armenian students whose skills are reasonably good, especially in light of the emphasis on production as well as training (this is in stark contrast to the GTZ project whose 10 third year students have had an exclusively theoretical training to date and are just beginning their clinical training in their third year and have yet to treat a single patient). The WRF trainees are capable of evaluating, casting, cast modification, socket fabrication, dynamic alignment, and transferring and fitting of below knee (B-K) and above knee (A-K) prostheses. Orthotics training has been minimal, in large part because of the high turnover of WRF instructor staff and the resulting inability to maintain teaching schedules.

The technology utilized includes both endoskeletal and exoskeletal prostheses with B-K using Pelite inserts, laminated polyester resin and nylon stockinette sockets, SACH feet and PTS and other suspensions. A-K prostheses utilize laminated quadrilateral sockets, SACH feet, and primarily suction and silesian belt suspension. The students serve as both prosthetist and technician, fabricating the entire prosthesis. The students make one prosthesis per week, on average (down-time for bad weather and supply shortages result in a production pattern which ranges from 30 prostheses in the best months, to a handful in other months to zero in July, which is the vacation month -- see production statistics table).

Adequate record keeping appears to be in place now, although there were gaps earlier in the project. A sheet is kept on each prospective patient on the waiting list which now numbers over 600. Computerized production statistics are kept, and inventory control (which had been a problem earlier in the project) appears to be adequate, with good attention to physical security.

RELATED PROJECTS

The German Red Cross project has seven trainees and uses the same technology as the WRF project. The project is scheduled to be turned over to the Armenian Red Cross (with assistance from the International Federation of Red Cross and Red Crescent Societies) in April 1993. According to the German Red Cross prosthetist, the German Red Cross will continue to contribute \$100 - 150,000/year for the next ten years! The project is housed in temporary trailers and containers on a hillside overlooking Yerevan, in a site virtually inaccessible to their clients in winter, and difficult to reach at any time. Promised new quarters have yet to materialize.

The GTZ prosthetic training center is a starkly modern, lavishly equipped building which is the most elaborate state-of-the-art prosthetic facility any of the team had ever seen anywhere in the world -- to say it stands out in Yerevan is a wild understatement. The multi-million dollar facility was designed to train prosthetists for the USSR, and is clearly more than would have ever been designed for the needs of Armenia. The large facility has 20 work stations, well-designed space for treating patients (although virtually none have been seen and that handful were treated by the instructor as a demonstration), and virtually every piece of equipment in the prosthetics world. The facility has 10 third year students and 13 first year students utilizing a small fraction of the space. The GTZ trainer was openly unhappy with the management of the center by its Armenian Administrator, and openly skeptical of the future of the program after GTZ assistance ends at the end of 1993. The Armenian Administrator was openly critical of the GTZ instructor for the totally theoretical approach which has yet to have a trainee fit a single patient compared to the 750 patients treated by the WRF trainees. There have been security problems at the GTZ center which is designed with large unprotected glass areas easily broken into. The team believes that the GTZ facility is capable of producing all of the prostheses needed in Armenia and providing all the necessary training. The equipment in the GTZ center, WRF and the German Red Cross together with the unopened containers of equipment for centers which were never opened are clearly a surplus. For political reasons in Germany, the GTZ and German Red Cross do not cooperate officially, although the local teams work together well on an unofficial basis.

The Red Cross orthotics workshop is located in the ultra-modern Post-Trauma Rehabilitation Center recently opened in the outskirts of Yerevan. Only opened for two months, the center had only 16 spinal cord injury patients, with a much larger capacity. The orthotics workshop is staffed by 3 Red Cross trained Armenians (2 year training in Switzerland), the expatriate orthotists having completed their project. The omnipresent Otto Bock supplies were in evidence, and the Armenian director said that the three orthotists could handle 5 patients each per month. At the present time all supplies are provided by the Red Cross, and the Armenian director was not aware of any future plans for the Ministry to assume responsibility. The workshop is designed to service the center, but given the low demand to date, they have also taken patients referred by other hospitals. Center patients receive services free, and a nominal fee is charged for referrals from other hospitals. The center is totally equipped and supplied with state-of-the-art imported equipment and supplies, with no apparent concern for cost-cutting or the use of indigenous materials.

The Project Hope pediatric orthotics workshop is located on the grounds of a hospital in Yerevan. The four orthotists produce about 70 orthoses a month and claim to have a maximum production capacity of 100 per month. They claim to be meeting known demand and have no waiting list. The effective demand is low because most Armenian doctors are unfamiliar with pediatric orthotics and do not refer patients. The project is attempting to familiarize more of the medical profession as well as the general populace with pediatric orthotics.

The team visited each project site, and then hosted a dinner for the principals of all of the programs to discuss coordination, cost-cutting, fee schedules, and the viability of their projects after external assistance ceased. The discussion was lively and very frustrating for the team. While all parties agreed that the Ministry was incapable of supporting their programs adequately, and that "privatization" was a farce in the current economic conditions (fees would produce only a nominal fraction of real costs), the separate programs were not prepared to make any compromises which would curtail their autonomy, the use of state-of-the-art expensive imported materials, or the world-class quality standard they had been trained to produce. When asked how they intended to run a Rolls Royce program in a used Lada economy without continued external financing, all of the program principals, except GTZ, believed that they would somehow continue to receive external financial assistance. The director of the GTZ training center was the only one who felt that the only external assistance his center would receive was tuition paid for students from other republics (which would not be nearly adequate to meet the costs of the center). He expressed the desire to combine with the WRF program and cited earlier attempts to do so which had fallen through.

ISSUES

1) WRF STAFF TURNOVER -- The project was designed with a long term advisor and a series of short term advisors. There has not been a long term advisor who has actually served more than a few months. Over a dozen prosthetists have rotated through Yerevan in the first two years of the project, some of whom were retired from active practice and out of touch with the latest techniques. Several have left early because of personal problems and/or the difficult security/living conditions. This lack of continuity in management and training orientations has made the teaching program somewhat chaotic and behind schedule and has led to a patchwork maze of supplies and inventory. The physical therapy and orthotics portions of the project have suffered greatly, and insufficient time remains in the project to bring these components up to acceptable standards. John Lang is the current US prothetist on a one year contract -- he appears to have the respect of the students, and to be aware of the past problems and current issues. The difficulty in recruiting and retaining long-term staff has been a critical constraint for the project, and has slowed the achievement of both the training and production goals. In light of this, the achievement of the students is remarkably good, and any criticism of WRF for lack of staff continuity must be tempered by a realization of the difficult circumstances in Armenia (see recommendation 2).

2) TEACHING vs. PRODUCTION -- The WRF project is a joint production/training facility as is the German Red Cross (the GTZ is solely training). It produces more prostheses than the other two projects combined. As the project approaches its conclusion, orthotics training has yet to begin in an organized way and several physical therapy TDYs are scheduled (several of the short-term advisors began orthotics training, only to have it interrupted by the advisor's departure, and physical therapy training has been similarly disjointed). Given the 600 patient backlog and the short time remaining, priority decisions need to be made concerning the best use of the remaining time and money (see recommendation 2).

3) SALARIES -- The trainees receive a salary from WRF of \$50/month which is many times the salary rate the Ministry pays, but many times less than what the German Red Cross pays its trainees. The Ministry pays the trainees a piece-work fee for each prosthesis produced, amounting to \$3-5/month -- clearly insufficient to retain their services (the combination of inflation, the devaluation of the Ruble and the blockade have driven Ruble/Dollar rate from 5/1 to 415/1 and the price of 20 liters of gasoline from 4 Rubles to 5,000 Rubles in two years). Any resolution of this issue must be tied to the issue of charging patients for services, which are now provided free (see recommendation 1).

4) SERVICE CHARGES -- The question of "privatization" has been raised concerning this and other service projects. While the team believes that the current cost of producing a prosthesis can be substantially reduced, there is no feasible fee schedule which would produce anything more than token payments, given the economic conditions in Armenia and the value of the Ruble. The discussions concerning a fee schedule are progressing slowly with the Ministry (see recommendation 1).

5) PRODUCTION COSTS -- The project is providing state-of-the-art prostheses utilizing high tech equipment (Schein), components (Otto Bock), and imported US supplies. There has been no attempt to interface with the antiquated Soviet facility, or to utilize appropriate technology, or to exploit locally-produced items or fabricate components on-site. The first attempts to explore Russian-made components was about to begin at the WRF facility, and had just begun at the German Red Cross (Energia is a Moscow plant converting from space technology to commercial production, and they are producing Otto Bock-copies of components for less than half-price AND they are available for Rubles). The vice-Minister agreed orally in a meeting with the team that the Ministry would be responsible for Ruble purchases after the end of the project. The US source/origin restriction in the grant must be examined and changed, if necessary, to allow cost cutting. Under TECHNICAL RECOMMENDATIONS, there is a change to sheet thermoplastics which would also reduce costs, inter alia.

6) SUPPLY AND DEMAND -- No hard data exist, but the team's best estimate is a demand of about 3000 and a total annual production of about 400 (not including the virtual antiques made at the Soviet workshop). If these numbers are reasonably accurate, the new amputees from the war plus normal demand plus the need for replacements add up to a total demand which will never be met at the current combined production rate of the three prosthetics programs.

7) SHORT-TERM VISITS -- The number of visits has been excessive and the results from many of them have been negligible. The team was told that a series of visits are planned in the remaining period of the grant (see recommendation 2).

RECOMMENDATIONS

1) FOLLOW-ON GRANT -- If the following set of conditions can be negotiated, the team believes that a follow-on grant would maximize the large investment already made, rationalize the disparate parts of a national prosthetics/orthotics program, establish a complete orthotics capability, and convert a high cost unsustainable emergency-response set of foreign programs into a single development-oriented sustainable Armenian program:

a) PHYSICAL CONSOLIDATION -- The three prosthetic programs, equipment, supplies and trainees should be brought together at the GTZ center, with some rationalization of staff, and some equipment being stored for future replacement use. The physical plant should be utilized primarily for mass production, with a section set aside for training. While this is agreeable to GTZ, the German Red Cross prosthetist claims that his organization will never agree. WRF and GTZ should begin discussions immediately to move WRF into the GTZ facility. The Ministry should attempt to coordinate the best possible coordination with German Red Cross, if physical consolidation is truly impossible.

b) MINISTRY COMMITMENT -- The Ministry must commit to: paying prosthetists adequately to assure their continued service (this may involve phasing-in an increasing Ministry payment over the life of a new grant tied to the implementation of the fee schedule); establishing a required national fee schedule for prosthetic/orthotic services and criteria for those persons who need Government subsidy; paying for all Ruble costs of supplies; and appointing a technically competent Armenian Director with adequate salary and authority.

c) USAID/YEREVAN MANAGEMENT -- In-country management of the program with a recognition of the need to maximize coordination of the other donors, and an understanding of the priority of moving away from imported supplies.

d) GRANTEE MANAGEMENT -- The grantee should commit itself to posting a long-term advisor for the life of the grant and minimize the use of short-term TDYs. The long-term advisor should receive at least basic language training prior to arrival.

e) TECHNICAL RECOMMENDATIONS --

-- Move away from imported components and utilize Russian components from Energia in Moscow, and explore the possibility of local manufacture of components, such as vulcanized feet (a trip to another country where inexpensive components are mass-produced could be useful -- e.g., Vietnam produces vulcanized feet from old tires for \$3.50).

-- Change technology immediately in the WRF program (to be carried into any future program) to the use of sheet thermoplastics which are cheaper, lighter, safer to use, easier to ship, require less fabrication time, are more flexible and comfortable to wear, and which require fewer materials. The prosthetists at all three centers are familiar with this technology and have all the necessary equipment to make this change.

-- Initiate a comprehensive orthotics training program in any new grant, limit orthotics training in the remaining time of the current grant to basic orthotics, but defer physical therapy training in the current grant.

2) CONCENTRATION DURING FINAL MONTHS -- During the remaining life of the grant, additional trips by short-term advisors should be eliminated, orthotics training limited, new technological changes implemented, coordination with the GTZ and German Red Cross intensified, and local supplies and materials maximized with a view to reducing costs.

3) FINANCIAL AUDIT -- Inventory and record-keeping during the early part of the grant appear to have had some gaps, and the project has utilized large amounts of cash because of the non-convertible currency problem and lack of banking facilities. While the team has no evidence of any problems, prudence dictates a full financial audit before consideration is given to any possible follow-on grant.

APPENDIX "A"

AGBU YEREVAN OFFICE

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ARMENIA (YEREVAN)

WRF P/O Centre
ST92

PRODUCTION INFORMATION

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1																	
2		1989	1990	1991	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
3																	
4	PROSTHESES	100	251	191	3	11	17	30	30	20	0	20	22	24			719
5																	
6	ABOVE KNEE	33	94	62	1	7	10	11	15	12	0	8	10	8			271
7																	
8	BELOW KNEE	67	154	120	2	4	7	18	14	7	0	11	11	13			428
9																	
10	UPPER LIMBS	0	3	9	0	0	0	1	1	1	0	1	1	3			20
11																	
12																	
13																	
14	ORTHOTICS	92	8	0	0	0	0	0	0	0	0	0	0	2			102
15																	
16																	
17																	
18	TOTAL	192	259	191	3	11	17	30	30	20	0	20	22	26			821

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FINISHED								
NAME	S	DATE	AGE	YEAR	AMP	FIN	PROD	REMARKS
Abrahamian, Boris	m		26	1970	LBK	2-92		Armen S.
Abrahamian, Mikael	m		69		RAK	11-91		Armen O.
Abrahamian, Misha	m	9-91	65		RAK	10-91		Steve
Abrahamian, Samvel	m		21	1992	LAK	6-92		Gregor
Abrahamian, Samvel	m		21		LAK	9-92		Gregor
Aghabekian, Artur	m		18	E-88	RAK	3-92		Armen O.
Aghajarian, Aram	m		34		LAK	8-92		Marat
Aghedian, Hovhannes	m		32	E-88	REK	6-91		Gregor
Aghyanian, Rafik	m		56	1956	REK	3-92		Marat
Alekhanian, Robert	m		74		LBK	11-91		Steve
Alexanian, Marat	m		53		RSym	8-92		Abel
Alexanian, Marat	m		53		LAK	8-92		Abel
Alexanian, Romik	m		48		REK	9-92		Abel
Ananian, Garush	m		53		RAK	2-92		Abel
Ananikian, Gagik	m		44		RAK	8-92		Abel
Antonian, Margik	f		49		LBK	4-92		Gregor
Antonian, Rubik	m		55		LAK	4-92		Abel
Arakelian, Murad	m	9-91	57		LBK	10-91		Armen O.
Aramian, Vahram	m		60		RAK	12-91		Abel
Arshakian, Mnazakan	m		34	1986	REK	10-91		Gregor
Arshakian, Mnazakan	m		34	1986	LBK	10-91		Gregor
Arutunov, Yuri	m		44		REK	12-91		Armen S.
Arutunov, Yuri	m		44		LBK	12-91		Armen S.
Asatryan, Aram	m		66		RAK	8-92		Armen O.
Asatryan, Aram	m		66		LBK	8-92		Armen O.
Asatryan, Martin	m		66		LAK	2-92		Abel
Asatryan, Martin	m		67		LAK	5-92		Abel
Asatryan, Pargev	m		65	1944	RAK	12-91		Gregor
Asatryan, Vazgen	m	10-91	43		LBK	10-91		Marat
Asaturian, Pargev	m		67	1944	RAK	4-92		Marat
Ashughian Aramats	m		55	1989	RAK	10-91		Armen S.
Ashughian, Sima	f		54		RAK	3-92		Pete
Ashugian, Sima	f	10-91	53		RAK	10-91		Pete
Azarian, Henrik	m		55		LAK	5-92		Edward
Asoyan, Rafik	m		58		LBK	8-92		Gregor
Asrian, Yesai	m		61		LBK	11-91		Edward
Asrian, Yesai	m		63	1983	LBK	4-92		Edward
Astanian, Isahak	m		24		LBK	5-92		Armen O.
Avagian, Rafik	m		51		LAK	6-92		Edward
Avetian, Nelh	f		21	1991	LAK	4-92		Abel
Avetisian, Fepronia	f		54	1979	RAK	4-92		Gregor
Avetisian, Sergei	m		23		LAK	12-91		Marat
Avetisian, Sergo	m		42		RBE	12-91		Armen S.
Avetisian, Susanna	f		30		LAK	6-92		Armen S.
Avtandilian, Hevik	m	9-91	34		RAK	10-91		Armen S.
Avtandilian, Hevik	m	9-91	34		LBK	10-91		Armen S.
Azarian, Slavik	m		39		LBK	5-92		Edward
Azizian, Vazgen	m	9-91	42	1991	LBK	10-91		Pete
Babajanian Korun	m		33		RAK	4-92		Pete

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Eaboran, Kotia	m	52		LAK 6-92	Marat
Baghdasarian, Rafik	m	62		LAK 3-92	Edward
Baghdasarian, Rafik	m	62		LAK 2-92	Edward
Bakhan, Yevgenia	f	9-91 59		LAK 10-91	Abel
Barikian, Lusia	f	54		REK 1-92	Abel
Barseghian, Yurik	m	60		RAK 9-92	Edward
Begoian, Samvel	m	37		REK 6-92	Abel
Bleyan, Balabek	m	72		RAK 9-92	Abel
Bondarev, Gennadi	m	20	1979	RAK 12-91	Edward
Bozorian, Norair	m	24		LAK 3-92	Edward
Chilingarian, Darcho	m	10-91 78		LBE 10-91	Armen S.
Chilingarian, Jora	m	45		LBK 4-92	Marat
Chornban, Norsun	m	42		LBE 12-91	Armen S.
Danielian, Tigran	m	60		LBK 5-92	Gregor
Dashunts, Rafael	m	69		LBK 4-92	Armen S.
Davidian, Georgi	m	38		RAK 5-92	Edward
Daytian, Parzik	f	58	1986	REK 11-91	Abel
Gasarian, Samvel	m	9-91 60		RBE 10-91	Armen S.
Gasparian, Karine	f	29		LBK 11-91	Abel
Gasparian, Sretlana	f	51		REK 9-92	Edward
Gazarova, Stella	f	38		LBK 9-92	Abel
Gevorgian, Levon	m	32		RBE 9-92	Armen S.
Gevorgian, Samvel	m	39	1984	LBK 3-92	Pete
Gevorgian, Suren	m	68		REK 4-92	Armen S.
Gevorgian, Suren	m	68		LBK 4-92	Armen S.
Gevorkian, Agasi	m	8-91 61		REK 10-91	Marat
Gevorkian, Arkadi	m	8-91 56	1989	LBK 10-91	Armen O.
Gevorkian, Arkadi	m	8-91 56	1989	REK 10-91	Armen O.
Ghazarian, Stepan	m	67		LBK 4-92	Armen O.
Ghevondin, Vardges	m	39		LAK 4-92	Marat
Ghukasian, Robert	m	32		REK 5-92	Edward
Ghukasian, Suren	m	65		RAK 8-92	Pete
Gimishian, Edward	m	10-91 9		RBE 10-91	Steve
Gimishian, Edward	m	10-91 9		LBE 10-91	Steve
Grigorian, Aghasi	m	42	1991	REK 12-91	Marat
Grigorian, Avag	m	52	1970	REK 11-91	Steve
Grigorian, Avag	m	43		REK 6-92	Armen S.
Grigorian, Frunzik	m	65		LBK 11-91	Gregor
Grigorian, Frunzik	m	65		REK 11-91	Gregor
Grigorian, Moyses	m	65		RAK 9-92	Abel
Hairapetian, Artnenak	m	62		RAK 4-92	Edward
Hairapetian, Avetik	m	1991 42		LBK 11-91	Peter
Hairapetian, Avetik	m	43		LBK 9-92	Pete
Hairapetian, David	m	33		LBK 5-92	Marat
Hakopian, Aram	m	30		RBE 5-92	Armen S.
Hakopian, Jora	m	55		REK 3-92	Armen O.
Hakopian, Nina	f	66	1990	REK 12-91	Edward
Hakopian, Seriozha	m	66		RAK 9-92	Marat
Hakopian, Yeprem	m	8-91 78	1945	REK 10-91	Steve
Hambarzumian, Jemma	f	55		LBK 4-92	Armen O.
Hapetnaktian, Manik	m	53		LBK 9-92	Pete

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Harutunian, Surik	m	39		RBK:11-91	Armen S
Harutunian, Albert	m	38		RAK:3-92	Marat
Harutunian, Henrik	m	8-91 40	1988	RAK:10-91	Marat
Harutunian, Hrach	m	62		RAK:4-92	Gregor
Harutunian, Lusia	f	46		LBK:5-92	Armen S.
Harutunian, Samson	m	31	1986	LAK:3-92	Gregory
Harutunian, Surik	m	40		LBK:4-92	Pete
Hekekian, Hakop	m	68		LAK:12-91	Grigor
Hovakimian, Edik	m	1982 26		RAK:11-91	Armen O.
Hovakimian, Edik	m	26		RAK:12-91	Armen O.
Hovasapian, Argine	f	62		LAK:6-92	Armen O.
Hovhanisian, Aghvan	m	33		LBK:12-91	Armen O
Hovhanisian, Mikael	m	1974 30		LAK:11-91	Peter
Hovhanisian, Yurik	m	31		LBK:8-92	Armen O.
Hovhannisian, Gohar	f	36		RBK:6-92	Pete
Hovhannisian, Hrach	m	67		LBK:5-92	Pete
Hovhannisian, Kajik	m	33		RBK:9-92	Edward
Hovhannisian, Karapet	m	46		RAK:5-92	Marat
Igittian, Vazgen	m	60		RBK:12-91	Pete
Ilyichenko, Alexander	m	73		LAK:11-91	Edward
Iskandarian, Lyda	f	34		LAK:9-92	Abel
Israeliian, Haikanush	f	10-91 51		RBK:10-91	Armen S.
Julakian, Harutun	m	68	1991	RAK:1-92	Abel
Kalachian, Rafik	m	54	1991	RAK:2-92	Armen O
Karakhanian, Hovhannes	m	33		RBK:4-92	Marat
Karakhanov, Hrach	m	60		LBK:4-92	Edward
Karamian, Misha	m	53		LBK:4-92	Abel
Karapetian, Ashot	m	29		LBK:5-92	Armen S.
Karapetian, Sofia	f	8-91 60	1989	LF:10-91	Abel
Karapetian, Susanna	f	44		LBK:11-91	Abel
Kardanian, Seda	f	9-91 59		LAK:10-91	Abel
Keninian, Gnel	m	26		LBK:5-92	Abel
Khachatrian, Artashes	m	35		RAK:5-92	Armen O.
Khachatrian, Artashes	m	35		RAK:9-92	Armen O.
Khachatrian, Ashot	m	25		LBE:8-92	Armen S.
Khachatrian, Razmik	m	49		RBK:12-91	Abel
Khachatrian, Razmik	m	49		LBK:12-91	Abel
Khudoian, Amalia	f	25	1984	RBK:11-91	Abel
Khudoian, Amalia	f	25	1984	LBK:11-91	Abel
Knteghtsian, Spartak	m	68		RBK:5-92	Gregor
Kocharian, Seriozha	m	65		LAK:9-92	Marat
Laguskaya, Arzhela	f	10-91 33		LBE:10-91	Armen S.
Lesnik, Ivan	m	50	1991	RBK:2-92	Armen S.
Lputian, Garegin	m	64		RBK:5-92	Pete
Makarjan, Jivan	m	37	1966	RBK:2-92	Gregor
Malkhasian, Artush	m	63		LAK:9-92	Armen G.
Malkhasian, Artush	m	63		RBK:9-92	Armen G.
Mambreyan, Gharib	m	45		REE:8-92	Armen S.
Manasian, Asatur	m	32		RBK:4-92	Abel
Manasian, Gevorg	m	46		LBE:11-91	Armen S.
Manasian, Gevorg	m	46		REE:11-91	Armen S.

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Manukian, Karlen	m.	56		RBK: 9-92	Armen S.
Manukian, Seriozha	m.	61	1991	LAK: 12-91	Marat
Manukian, Vazgen	m.	38	1966	LBK: 2-92	Armen O.
Margarian, Henrik	m.	67		LBK: 4-92	Marat
Margarian, Robert	m.	30		RBK: 11-91	Gregor
Margarian, Valerik	m.	38	1970	LBK: 11-91	Edward
Martinian, Yeghsapet	f.	49		PAK: 3-92	Abel
Meelkorian, Seriozga	m.	23		LBK: 11-91	Edward
Melikian, Stepa	m.	60		LBK: 6-92	Armen O.
Melikian, Stepa	m.	60		LBK: 4-92	Armen O.
Melikian, Varvara	f.	69		LAK: 6-92	Pete
Melkorian, Karlen	m.			LBK: 5-92	Abel
Meikurnov, Rafik	m.	66		LAK: 6-92	Pete
Melnikova, Zina	f.	23		RBK: 11-91	Armen O.
Merastan, Vazgen	m.	10-91	49	LAK: 10-91	Edward
Mesropian, Levon	m.	64		RBK: 3-92	Abel
Mezhlumian, Mels	m.	10-91	54	LBK: 10-91	Armen O.
Mikaelian, Anna	f.	18		LAK: 12-91	Abel
Mikaelian, Anna	f.	18		RBK: 1-92	Abel
Mikaelian, Stepan	m.	42	1990	RBE: 4-92	Armen S.
Minasian, Gevorg	m.	46		LAK: 11-91	Abel
Minasian, Gevorg	m.	46		RAK: 11-91	Abel
Muroyan, Mihran	m.	56		RBK: 8-92	Abel
Mirzorian, Khachatur	m.	43		RAK: 5-92	Armen O.
Mitichian, Armen	m.	28	1991	RBK: 5-92	Armen O.
Mitichian, Garegin	m.	67	1991	RAK: 6-92	Marat
Mkrtchian, Hamazasp	m.	95		RAK: 5-92	Armen O.
Mkrtchian, Pargev	m.	54		RAK: 5-92	Pete
Mkrtchian, Rafik	m.	10-91	32	1971 RBK: 10-91	Armen O.
Mkrtchian, Zina	f.	10-91	58	LAK: 10-91	Armen O.
Mnazakarian, Marzpetuny		32		LBK: 9-92	Gregor
Movsistan, Misak	m.	67		RBK: 8-92	Abel
Movsistan, Misak	m.	67		LAK: 8-92	Abel
Movsistan, Norair	m.	29		LBK: 6-92	Edward
Movsistan, Zorik	m.	51		RBK: 6-92	Gregor
Muradian, Haikaz	m.	68		LBK: 11-91	Steve
Musaelian, Vania	m.	33	1980	RAK: 2-92	Armen O.
Musaelian, Vania	m.	33	1980	LAK: 2-92	Armen O.
Musnian, Galia	f.	45	1989	LAK: 12-91	Gregor
Musnian, Galia	f.	46		LAK: 8-92	Gregor
Nagaev, Levon	m.	66		LAK: 11-91	Armen O.
Nahapetian, Zhora	m.	69		RAK: 12-91	Abel
Nasibian, Garik	m.	23		LAK: 5-92	Armen S.
Nazarian, Aramais	m.	10-91	63	LBK: 10-91	Pete
Nazarian, Aramais	m.	63		RBK: 11-91	Pete
Nersisian, Edward	m.	51	1960	RAK: 6-92	Marat
Nersisian, Vachagan	m.	30		LBK: 5-92	Marat
Nikoghosian, Haik	m.	67		LAK: 5-92	Armen O.
Ohanian, Albert	m.	54	1944	LBK: 4-92	Pete
Ohanian, Ashot	m.	10-91	93	RBE: 10-91	Armen S.
Ohanianian, Haiknush	f.	50		RBK: 9-92	Armen O.

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Osipian, Vladimir	m	34	1991	LAK:4-92	Abel
Papouian, Renat	m	57		RAK:12-91	Marat
Papouian, Renat	m	57		LEK:12-91	Marat
Perchuliak, Aleona	f	22	E-88	RAK:6-92	Abel
Petrosian, Artoom	m	36	E-88	RAK:12-91	Marat
Petrosian, Yuri	m	51		RBK:4-92	Gregor
Petrosian, Yuri	m	51		LBK:4-92	Gregor
Poghosian, Arshak	m	65		RBK:9-92	Armen S.
Poghosian, Revik	m	59		LAK:9-92	Abel
Pogosian, Robert	m	10-91	22	LBK:10-91	Abel
Pogosian, Tigran	m	10-91	4	RAK:10-91	Abel
Prutian, Stepan	m	38		RAK:6-92	Edward
Sahakian, Ashot	m	42		LEK:11-91	Steve
Sahakian, Gagik	m	34		RAK:11-91	Abel
Sarkisian, Hovhannes	m	9-91	58	LBK:10-91	Abel
Sarkisov, Boris	m	43		LAK:5-92	Abel
Sarkisov, Boris	m	43		RAK:5-92	Abel
Saunts, Avetik	m	37		LEK:9-92	Armen O.
Sayadian, Gayane	f	60	1991	RAK:4-92	Pete
Sepouyan, Lola	f	35		RBK:9-92	Armen S.
Sevantsian, Albert	m	48	1991	LEK:2-92	Armen O.
Sevantsian, Albert	m	48	1991	LBK:5-92	Armen O.
Shahnian, Bagrat	m	8-89	22	con: LBK:12-91	Abel
Shakarian, Liova	m	38	1991	LAK:3-92	Marat
Shakarian, Mamvel	m	28	1991	LAK:3-92	Abel
Shorvoghlian, Artur	m	29		LEK:4-92	Edward
Ter-Avetisian, Ashot	m	51		5-92	Armen O.
Tomasian, David	m	9-91		RBK:10-91	Pete
Tonotian, Seriozha	m	66		RBK:11-91	Abel
Tovmasian, David	m	32		LBK:8-92	Abel
Tsaturian, Ararat	m	64		LBK:3-92	Armen O.
Tumanian, Marine	f	10-91	23	LBK:10-91	Abel
Udumian, Vasil	m	56		LAK:5-92	Edward
Vardanian, Arsen	m	27		LBK:5-92	Gregor
Vardanian, Babken	m	38		LBK:8-92	Marat
Vardanian, Seda	f	59		LAK:10-91	Abel
Varsimashvili, Gaiaz	m	10-91	62	RBK:10-91	Abel
Yeghiazarian, Norik	m	52		RAK:8-92	Edward
Yeghikian, Vergine	f	68		RAK:6-92	Armen O.
Ysarukian, Suren	m	64		LAK:5-92	Pete
Zakarian, Samvel	m	37	1991	RAK:3-92	Abel